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ABSTRACT

The third of a three-volume set, this handbook provides direction to teachers of grades 7 and 8 for integrating occupational information with the academic subjects of social studies, language arts, mathematics, and science. Following a section on bulletin board ideas, separate subject sections present teacher and student directed activities which correspond with the subject curricula. Arranged in order of difficulty, each student activity page is linked with a springboard idea in the teacher-directed activity section. Activities for individuals, small groups, and total classroom discussion are included. The bibliography contains the sources of materials that were researched for activity ideas. (Author/BM)

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OCCUPATIONAL EDUCATION COORDINATORS' HANDBOOK

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7-8

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ABSTRACT

The HAND BOOKS provide direction to K-8 educators for integrating occupational information with the academic subjects of social studies, language arts, mathematics, and science. Following a section on bulletin board ideas, separate subject sections contain teacher and student directed activities which correspond with the subject curricula.

A set of HAND BOOKS consists of three sections, K-3, 4-6, and 7-8 each having its own cover. The shrink-wrapped set is punched and ready to be placed in a loose-leaf binder to be supplied by the user.

PREFACE

Cooperative Approach to Teaching

"All children should be prepared for the world of work through programs of career education. The career education responsibility should be shared by school district personnel at all levels so that in every curriculum area all types of occupations are shown to have an important place in today's world."[1]

To meet this goal and to help children learn with the greatest amount of success, a group effort is needed on the part of all educators: teachers, counselors, occupational information coordinators, and administrators. School must be a big business when it comes to operating financially, but it dares not even hint of big business when it comes to deciding what is best for a particular child at a particular moment. There is no formula for deciding what will be the best preparation for a person ten years, or even fifty years, from now. The age-old business of individualizing continues to be the basis upon which life depends. People do not like, do, think, or feel alike; neither can they all prepare in the same way for their places in the working world.

It takes much planning and understanding on the part of educators and parents to create in individual children an awareness of themselves, as well as an awareness of the world around them, and what lies ahead for them in the future.

School was once strictly book learning, but now, it seems, facts are not enough. Lately educators have begun to talk about the importance of understanding oneself, setting goals, testing ideas related to those goals, and being able to change goals without threat or trauma. Many educators are now promoting the idea that students must be ready for the working world whenever they leave the system of education. This process of occupational and self awareness, then, should begin early in education and continue to grow throughout the person's school experience. During students' formative years practically every experience has occupational significance. The courses and activities in which they engage influence their abilities, interests, and attitudes. These, along with their knowledge of the world-of-work and their physical characteristics, tend to affect their future choice of a career.

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[1] "State Board of Education Goals Statement," Illinois Office of Education, adopted November 13, 1975.

It is because teachers are always looking for suggestions and ideas for making their teaching more relevant to students' needs that these Hand Books have been developed.

Usability of the Hand Books

The Hand Books have been developed for three different levels of learners:

- K-3 (Kindergarten through Third Grades)
- 4-6 (Fourth through Sixth Grades)
- 7-8 (Seventh and Eighth Grades)

Bulletin Board Ideas covering all subject areas introduce each Hand Book. The major portion of each Hand Book consists of teacher and student directed activities developed for each of the four major subject matter areas of: social studies, language arts, mathematics, and science. Within each subject, an attempt has been made to determine the scope of skills taught, to develop activities integrating occupational and self awareness with the scope of skills, and then to arrange the activities in order of difficulty.

The activities found in the Hand Books are not meant to be used exactly as they are written. It may be that the user will only gain an idea from the activity given as to how that activity can be adapted to his or her own students. The Hand Books are not educators' guides for a course of study, nor are the activities meant to be used in sequential order. They are, instead, idea books, springboards for thought and take off points from which busy educators may begin to see how occupational and self awareness concepts can be included with the skills presently being taught. Soon, including occupational and self awareness in subject matter becomes a way of teaching.

A space has been left after each activity for teachers' notes, perhaps stating how the activity works, what needs to be changed, or how to go about teaching the activity another time. These notes can also be used to assist the user in completing the User Evaluation Form found on page 271 . It is requested that each user complete and return the form to the name and address listed on the evaluation.

The Hand Books were designed to be placed in a loose-leaf binder with the self-adhesive label being placed on the spine of the binder to identify the contents. Using a binder permits the user to add or delete activities at will. The student ACTIVITY PAGES may be easily removed and reproduced for class use and returned to the binder again.

Special Populations

Special needs students were kept in mind as these materials were developed. There is no special section for the educator of the mentally retarded, the gifted and talented, the culturally deprived, the physically handicapped, or the emotionally disturbed. Rather, many of these activities are already suitable for their use or can be adapted. It behooves the educator to pick and choose, rearrange and adapt. Being prepared for the world of work is no less important to special populations in schools than it is to the so called "average normal," American.

The authors were careful to avoid terminology which would be labeled, "sex-stereotyping." In using the activities, keep in mind that whenever an outside resource or material is used, there is a chance that stereotyping may appear. An effort was also made to include role reversals in some of the activities; that is, having males and females in non-traditional roles. Many textbooks are still biased; it is up to those who are involved with occupational and self awareness to point this out to students and vary the materials appropriately.

Hand Book Format

As visuals are an excellent teaching tool, each Hand Book has a Bulletin Board Ideas Section to be used by both educators and students. The Hand Books were developed by suggesting activities to illustrate how career concepts can be included with the existing curriculums of social studies, language arts, mathematics, and science. Each subject is color coded accordingly:

Social Studies - - Blue
Language Arts - - Salmon
Mathematics - - Green
Science - - Yellow

Within each subject area are two different types of activities. Teacher Directed Activities, the first portion of each section, contains springboard ideas for the teacher to use. Scope and sequence charts were studied carefully for each subject and a representative scope was selected which represents the broad areas covered by most texts. Student Activity Pages follow the teacher directed activities. These are ready to be copied and distributed to the students. Each activity page is linked with a springboard idea in the teacher-directed section. Often suggestions are made for additional activities for the students after they have completed the activity page.

Activities have been developed for individuals, for small groups, or for total classroom participation. Questions are included to provide leads for further discussion or additional study. The intent of these questions is to promote thought rather than to test knowledge.

Credit numbers found following some of the activities refer to the number assigned the source in the Bibliography. The Bibliography consists of the sources of materials that were researched for activity ideas.

Illinois Goals

More and more, emphasis is being placed upon occupational programs even at the elementary level. To keep abreast of what the Office of Education, DAVTE, is aiming for, the goals have been outlined,

"At the elementary school level, an organized sequence of career development learning experiences is referred to as an Occupational Information Program. It encompasses career awareness, self awareness and career exploration activities. More specifically, Occupational Information Program activities should help a student to:

--develop an awareness of the dignity of work and the useful functions performed by workers.
--become aware of a larger number of occupations.
--develop a realistic self-concept of abilities and limitations as they relate to the world-of-work.
--learn about occupational opportunities through exploration."[2]

Also outlined are program goals. That list includes the following:

1. "Help the child realize the value of all occupations to society regardless of job hierarchy.
2. Help the child realize that workers achieve dignity by performing job functions in a highly acceptable manner.
3. Expand the child's knowledge about occuaptional families and a variety of occupations within each category.
4. Assist the child to recognize those aptitudes, interests, and personality factors which are important to job success.
5. Increase the child's understanding of individual abilities and interests.
6. Assist the child to develop positive attitudes toward school achievement and its relationship to occupational achievement.
7. Help the child to be aware that self-image will affect choice of work, and in turn, way of life.
8. Help the child to understand that rapid changes taking place in the world-of-work may necessitate advanced training or retraining for a related and a different occupation."[3]

Tasks and activities to assist educators in meeting these state and program goals have been developed through these Hand Books. It is intended that the given ideas and suggestions will supplement and enhance occupational information programs to the extent that all children will be better prepared for the world-of-work.

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[2] Elementary Occupational Information Program, Keystone to Career Development, State of Illinois, DVTE, Bulletin No. 51-374, p.2.

[3] Ibid., p.8.

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Carol Sanders

PROJECT DIRECTOR

BULLETIN BOARD IDEAS!

1. CAMP COOK - MULLIGAN MIXER

Set aside a corner of the bulletin board for "Slang Terms for Occupations." Ask your students to submit their slang terms in a suggestion box. Change the term on the bulletin board each week and it will keep the students coming back to see if their term is posted. Our terms are listed on the lower right hand corner of the pages in this section.

2. OPEN THE DOOR!

Have the students back a large bulletin board with pages from the "Help Wanted" sections of various newspapers. Have 26 students make doors from sturdy bright paper. Print one letter of the alphabet (A-Z) in capital letters on each of the doors. Staple or tack the doors (at the left for hinges) to the bulletin board. Have the students look for pictures of people with an occupation that starts with the same letter as that on the door. After one picture is placed behind each door the students will be ready to open the one of their choice. After doing some research in the school library, the students will write reasons for their interest in that particular occupation. Each student will read the "essay" aloud and will invite questions from the rest of the class. As another step the students might look at the "Help Wanted" section to see if there are any openings in the occupations of their choice. If not, perhaps the students could write their own ad for the paper. At this time you could discuss how to write an ad and what information to include.

CAMP COOK-MULLIGAN MIXER-HASH BURNER

3. FUTURE OCCUPATIONS?

Have the students use their imaginations to draw pictures of future occupations. You might include occupations such as the following:

1. Underwater farmer
2. Space shuttle driver
3. Fish rancher
4. Custodian in the sky lab

Display the pictures on the bulletin board. Encourage discussion on why these occupations are possibilities. At this time you might also make a bulletin board of occupations of the 1900's, 1920's, and 1940's. Discuss why these occupations were important during that time, if the occupations are still in existence today, and if so, how they have changed. You might want to have three bulletin boards or three sections entitled, "Occupations Then," "Occupations Now," and "Occupations of the Future." Compare and contrast. Discuss how these workers use math, language arts, social studies and science skills in their work.

4. 3 R's: RESPONSIBILITY, RESPECT, AND RIGHTS AT SCHOOL

Prepare a bulletin board using the title, "Responsibilities, Respect, and Rights at School." Have the students choose one, two or all three of the words and write their feelings about them. Arrange the papers on the board near the appropriate words. After the students discuss their feelings have them look in the newspapers for articles about people who took on added responsibility or who fought for what they felt was right. Display these articles next to the student's feelings posted on the board. Compare and contrast.

5. ALL WORK IS HONORABLE

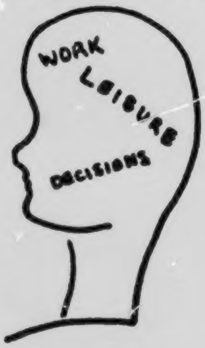
Have the students gather and mount on construction paper pictures from magazines of men, women, and young people working at all kinds of different jobs. Divide the board into five major cluster areas (health, industry, agriculture, business, public and personal service occupations). Place as many occupations as the students can find. It may be necessary to add a sheet of butcher paper for "expansion room."

6. HAVE IT YOUR WAY

Along with working scenes, pose questions of choices - Do you like: Being inside or out-of-doors? To be with people or alone? Noisy, bustling situations, or time alone to think? Time schedules or freedom to work at your own pace? etc. A classroom activity might include a writing exercise where students take a position as to what their basic likes are. Discussion could be directed to citing examples of jobs which fit into these categories.

7. CAREER EDUCATION: WHAT DOES IT MEAN TO YOU?

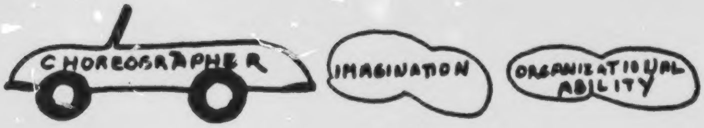
Cut a large silhouette of a head out of construction paper to put on your bulletin board. Fill the head with "thoughts" of career education: work, play, leisure, when I grow up,... I have a dream, etc. Put the words "Career Education: What Does It Mean To You?" beside the head. Next to your bulletin board, put a large, blank piece of butcher paper. Let the students express, "graffiti style," what career education means to them. (We tried it with college students. It proved we are still little kids!)



PROFESSIONAL ATHLETE - OLD WAR HORSE

8. A JOURNEY INTO LIFE

Have various modes of transportation depicted (if you have someone who draws cartoons, so much the better)! The background might be a map, buildings, or places found along a road. Place a career name on each vehicle. Attach at various lengths behind it, worker skills, tools required, education needed, etc. Each item could be illustrated either on a puff of dust, a cloud of smoke, etc. Be sure the board is brightly illustrated and attractive.



9. TAXES, ARE THEY NECESSARY?

Have the students list all types of work supported by taxes. On a map of your city, have the students make small drawings of the buildings that taxes bought. Remember to draw them in on the map on the proper street. Talk about the occupations of the workers in each building, (e.g., school teachers, principal, cooks, custodians). Attach a list of workers paid by taxes to the appropriate building. Take field trips through these buildings if possible. Talk to the workers about their occupations, duties, training/education required, etc. Discuss, "What would our world be like if nobody paid taxes?"

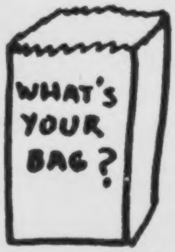
10. CAREER EDUCATION ISN'T ALL WORK

Make two simple trees from green and brown construction paper. Place them toward either end of the display board. Out of brightly colored paper make a hammock to hang between trees using either red cord, yarn or magic marker, to make "ties" on the trees. Toward one end of the hammock, show some bare feet. Print the word, "LEISURE" in the middle of the hammock.

Have students put up brightly colored leaves in the trees, each representing a way to spend one's leisure time (music, football, reading, etc.).

11. WHAT'S YOUR BAG

Have your students stuff small lunch bags and paste pictures of different occupations on each of them. Put them on your bulletin board with the heading, "What's Your Bag?" Center a learning activity around it by letting the students choose the occupations to be represented.



12. MALE, OR FEMALE - BOTH CAN DO THE JOB!

Make a bulletin board display of sex stereotyping careers.

ELECTRICIAN'S ASSISTANCE - GRUNT

13. PUT YOUR HEART INTO YOUR WORK

Very seasonal! Put a big Valentine on your bulletin board with the saying: "Put Your Heart Into Your Work." Surround the heart with Valentine pictures of people enjoying their work.

PUT YOUR HEART
INTO YOUR
WORK

14. YOU ASKED ABOUT THE STATE OF THE ECONOMY??

Gather cartoons which present a humorous side of economic and consumer issues. Make a bulletin board display of them.

15. LET ME THINK: HEALTH, INDUSTRY, AGRICULTURE?

Divide your class into five groups. Assign one of the five Illinois job clusters to each group. Have each group develop a bulletin board centering on their cluster including the following: three occupations within the cluster, entry level requirements, job descriptions, benefits, promotions, specific skills required, and personality traits applicable to their cluster.

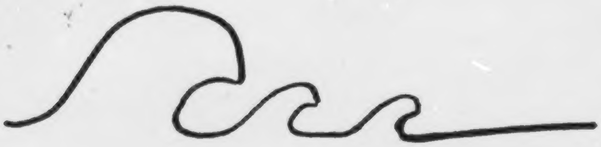
ILLINOIS OCCUPATIONAL CLUSTERS

1. Applied Biological and Agricultural Occupations
2. Business, Marketing, and Management Occupations
3. Health Occupations
4. Industrial Oriented Occupations
5. Personal and Public Service Occupations

16. WE MAKE WAVES, TOO!

Make a bulletin board of all the people from your school who have gained prominence in their fields. This would be a good time to use interviewing skills by asking school workers who knew the important person such questions as:

1. How did you know this person?
2. What was this person like when in school?
3. What characteristic helped the person gain success?
4. Was this person a good student?
5. Was this person a leader?
6. Did you think then that this person would be a success? Why?



17. WHAT IS IN YOUR FUTURE?

Find pictures, or better yet, have students who have artistic skills draw cartoons or illustrations of phases of life that depict different lifestyles. Cut pictures in different sized circles and cover with cellophane to resemble glass. Make a base of construction paper and mount the crystal balls on the bulletin board. For example:

1. "Where will you live?" might be illustrated with an apartment house, a bungalow, or a large luxurious ranch-style house.

2. "Where will you work?" might show a factory. a farm, a department store.

3. "What will you do in your leisure?" could be shown with outside activities, activities done alone, sports activities, etc.

4. "How will you spend your money?" might include a savings book, real estate or a pleasure trip.

You may think of other questions to ask as well as other pictures to include when discussion arises. Be sure to convey the idea that different lifestyles mean different enjoyments for different people.

18. ANATOMY OF A FRIEND

Display a silhouette of a body on the bulletin board. Have the students, as a group, decide which characteristics are most important for their friends to have. Make letterings of these characteristics to display on the silhouette. Find pictures to illustrate these characteristics.

19. STUDY BRINGS SUCCESS

Have the students show the importance of a subject by making a collage of people working in occupations which need a proficiency in subject matter in that particular job, (e.g., math or English or science is a must for farmers, radio announcers, telephone repair persons, cooks, truck drivers, brick masons, etc.).

20. WHO'S WHO?

Have a number of pictures of people working in various occupations. Along the outer edge of the bulletin board, have a number of scrambled occupations. Students are to visually unscramble and match the occupation with the right picture.

21. TRY CAREER-O-GRAMS AND CAREER DOODLES

Have the students combine a picture with word phrases to illustrate a career (Career-O-Gram). Or, have them spell a career and in some way illustrate that career by decorating the letters (Career Doodle). Examples are these:

Airborne into the

Stratosphere

The brave man

Revolves

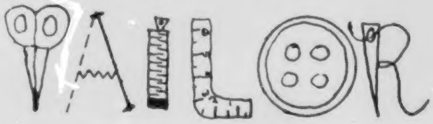
Orbiting into

Nothingness

Always busy

Until

Time to return



22. CAREERS MEET NEEDS

Have the students develop a bulletin board around the theme, "Careers Meet Needs." For example:

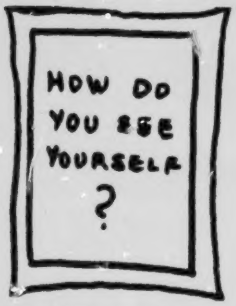
1. Need for Shelter
2. Need for Food
3. Need for Clothing
4. Need for Health
5. Need for Friendship
6. Need to Belong

Discuss.

LAWYER - LIMB OF THE LAW

23. HOW DO YOU SEE YOURSELF?

Place a small mirror in the middle of the bulletin board which is attractive and eye-catching. On the rest of the bulletin board have various pictures of occupations as possible choices for students to begin thinking about.



24. MOVIN' ON

Draw the side view of a convertible with big wheels. Put a man or woman in the convertible to drive the car. Draw parallel lines to make the roads leading in different directions. Instead of intersection markings, stop signs, road markings, etc., place signs that read: To Health Careers; To Construction Careers; To Agribusiness Careers; To Manufacturing Careers. (Select only those clusters that you are currently investigating.) Have students research the paths they would like to follow to see where they might take them. They might find stop signs along the way that would force them to make additional decisions regarding their choice of road.

25. SUMMER LEISURE CARTOONS

Have the students draw cartoons illustrating how they plan to spend or would like to spend their leisure hours during summer vacation. Each one should be in color and backed with bright colored construction paper. Mention should be made of the many different choices as well as how important it is to have leisure time to do the things that mean the most. Leisure time is an important time for developing one's self.

PIANIST - IVORY PLUCKER

26. WORKING SO OTHERS MIGHT PLAY

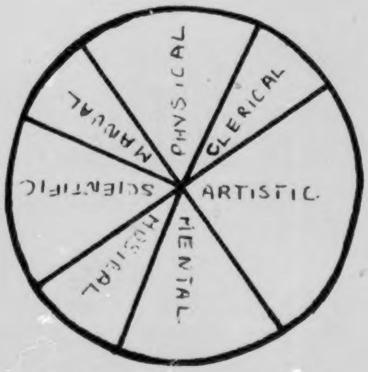
Post pictures of people who are engaged in vacation time occupations. Examples might be: resort guides, tourist information attendants, swimming pool attendants and life guards, travel agents, bus drivers, motel managers, park rangers, etc. Talk about what kinds of people are engaged in each of these jobs and whether or not they are year-round jobs. What might the person do the rest of the year?

27. I GO AROUND IN CIRCLES

Have the students develop a bulletin board around the idea of the various abilities individuals have. Make abilities as pieces of a pie. Abilities might include:

1. Writing ability
2. Mental ability
3. Scientific ability
4. Manual dexterity
5. Musical ability
6. Creative ability
7. Persuasive ability
8. Physical ability
9. Artistic ability
10. Clerical ability

Individual students may make their own pie with pie pieces to correspond with the way they see themselves.



SPORTS WRITER - DISHER OF DIAMOND DIRT

28. I NEED A SUMMER JOB

Have pictures and lettering denoting these sources for getting a summer job:

1. Friends or Family
2. Newspaper advertisements
3. Employment office
4. Going to employers

Or have samples of forms that people might need to fill out in order to gain employment such as: job application forms, W-4 forms, Social Security forms, health insurance forms, life insurance forms.

29. EXPERIENCE IS THE BEST TEACHER

Have illustrations of part-time jobs that young people can get during the summer to help them learn about money, job qualifications, etc. These experience jobs might be: running errands, yard work, carrying newspapers, detasseling corn, sacking groceries, helping with farm work such as putting up hay, being an assistant to a worker such as a carpenter, etc.

30. RESOURCES THAT ARE A MUST

Have a simple bulletin board composed of photocopied pages from books and materials with which students should become familiar, such as:

1. Dictionary of Occupational Titles
2. The College Blue Book of Occupational Education
3. The College Handbook
4. Lovejoy's Career and Educational Guide
5. Occupational Outlook

(Include others the guidance office might have)

COMEDIAN - BUTTON BUSTER

30. RESOURCES THAT ARE A MUST (Cont'd)

You might also have the actual books available. Borrow them from the guidance office. For practice have items for students to locate, such as:

1. What is the different between a dental assistant and dental technician?
2. How much does an architect earn?
3. Where can one go to get a radio broadcasting license?

31. "WILL THE MYSTERY BUSINESS SIGN IN, PLEASE."

Find pictures of people who have different jobs in the same company. For example: A car dealership might have a salesperson, a parts person, a mechanic, a secretary, and a general manager. Or, a dentist's office would have a dentist, a hygienist, a technician, a dental assistant, a bookkeeper, a receptionist.

Each day add one picture and allow the students to get together in teams and guess once each day. You will want to begin with the least obvious picture and go to the most obvious. You might decide to have a career bulletin board and keep these guessing games going. Or, you might want to change the format a bit and use real tools. For example: from the First National Bank you might have a key to a safety deposit box, an adding machine, a coin wrapper, a check book, a savings book. Each team might plan the "guesses" for one company. What other possibilities do you see?

32. CARTOON CAREER CORNER

Have children collect their favorite cartoons about people working or people talking about jobs. Display them on the bulletin board.

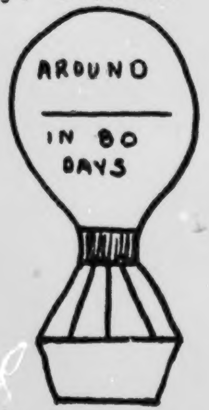
ENTOMOLOGIST - BUGOLOGIST

33. HIBERNATE THIS WINTER WITH A "HOW TO" BOOK

Make a white igloo with smoke coming from the chimney. Add the above slogan and nearby put a book cart of "How To" books. "How To" books in various areas can lead to hobbies, interests and possible job skills in the future.

34. AROUND__________ IN 80 DAYS!

Put the name of your town in the above slogan. Make a large poster board balloon similar to the one in "Around the World in Eighty Days." Make a large 3-dimensional basket under the balloon. Have students discover and add the names of resource people in their community to the basket. Have the students choose a resource person from the basket to interview. They are to report their findings to the class. Smaller balloons with baskets may be added to the display. Balloons could be used for each of the five Illinois clusters.



35. LET'S BRANCH OUT

Form the trunk and branches of a tree. At the base of the tree write a title such as,"Branch Out Into Math." On green cards write names of jobs that particularly need math skills. Then attach these cards with string to the limbs. Place as many jobs as space permits. The cards will make the tree appear to have leafy branches. The following week you might use the title, "Branch Out Into Science," etc. Place new job titles dealing with science. Be sure to allow the students to help think of occupations with the right skills to fit each category.

INSURANCE AGENT - PREMIUM
PHILANTHROPIST

36. LET'S GO SOMEWHERE

Collect transportation schedules, maps, and brochures for a bulletin board. Have the students plan a trip noting the destination (long-range goal). Then item by item outline the steps (short-range goals) needed to be taken in order to reach that destination. Discuss how planned details make the destination possible. The same process may then be related to other factors of life as well as making career choices. An important decision-making lesson to learn is determining priorities and placing these priorities at various places on a time schedule.

37. "L" IS FOR LAWBOOKS

Have the students choose three occupations they think they might like to know more about. For each letter in each occupation think of a characteristic, tool, or location of that occupation. (e.g., LAWYER)

L = Law books
A = A lot of talking
W = Works with people
Y = Yearly income good
E = Endless reading
R = Rough course in school

Put results on brightly colored paper on the bulletin board.

SOCIAL STUDIES
SPRINGBOARDS

GEOGRAPHY/ENVIRONMENT

1. PEOPLE MUST LIVE TOGETHER

To involve students in the planning process to achieve a goal and to enable students to see how planning is used by people in career roles, have your students design an apartment complex. As a class, or in small groups, the students should:

1. Decide upon the needs of the occupants.
2. Determine the locale.
3. Draw plans for the layout of the apartment complex.
4. List in sequential order the tasks to be performed for the building of the complex.

Students should decide how much living space is required for each individual and the special needs that must be considered when designing a place where people live together, (recreation, privacy, food preparation areas, utility areas, etc.). They should determine the amount of space required for the group, based on group ages and interests, (particular attention should be paid to the needs of small children, elderly, or the handicapped in multi-unit dwellings). Students might discuss the effects of population density on the life styles and choices of individuals (the need for privacy in high density areas, the need for community centers and other gathering places in rural areas, the need for compact living quarters in apartment areas, and the use of space in low density areas). They might want to consider using such recent innovations as schools, living quarters, and shopping areas all within the same high-rise complex. When considering where to build, students should look at area maps to determine access to schools, shopping areas, transportation, and other community resources needed by the occupants. (Real estate representatives or want ads can provide information on availability of sites and costs.) Decide which community resources are essential. Look at topographical maps or pictures of the area to determine how topography will influence the design of the structure or if the land will support a structure at all.

1. PEOPLE MUST LIVE TOGETHER (Cont'd)

In considering the layout of the dwelling, students should look at not only the requirements of future occupants, but also at traffic and activity patterns within the dwelling to determine the most convenient floor plan, (living and recreation areas, sleeping areas, work and study areas, children's play areas, food preparation areas, food serving areas, etc.).

Credit - #1

2. YOU MUST HAVE GEOGRAPHIC MOBILITY TODAY

Take a class poll to see how many families have moved because their parents had a job transfer. Have these students present their situations to the class. What kind of advantages resulted from the transfer? What were the disadvantages? Have your students identify jobs that require geographical mobility, (e.g., local vs. national firm, small firms vs. chain stores, mirgrant workers, etc.).

3. COULD I BE A COAL MINER AND LIVE NEAR MIAMI?

Using a map of the United States, have students decide where they would like to live:

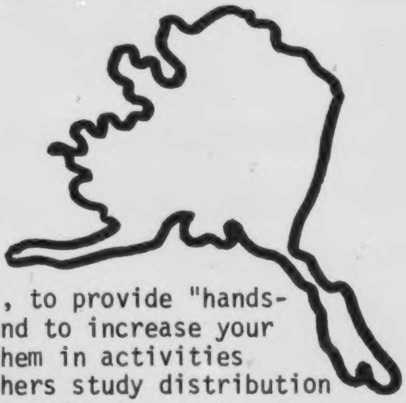
1. If they fished for lobster.
2. If they drove a race car professionally.
3. If they liked to ski.
4. If they had a respiratory ailment influenced by a wet climate.
5. If they liked to mountain climb all year.
6. If they liked speaking Spanish.
7. If they wanted to work in the coal mines.
8. If they wanted to be a farmer and grow corn.
9. If they wanted to work in the salt industry.
10. If they wanted to work in the iron and steel industry.

4. HARD WORK DEFINED

Ask several students about their definition of "hard work." How do the definitions vary? What do parents mean when they talk about hard work? Have your students interview working adults, (other than their parents,) and senior citizens (retired workers) as to their views of hard work. When the data is collected compare the views held by your students, their parents, other working adults, and senior citizens (retired workers). How are the views alike? How are they different?

5. HAVE YOU CONSIDERED ALASKA?

Environmental influences such as community size, climate, and location have an effect on career options and decisions. How can learning about different places increase one's choices? Using maps of your city, county, or state, have your students describe the areas that are familiar to them. Have them identify the places they have never been. Have each student choose one place they would like to know more about and do research to find out something about the choices of activities and work available. Have them identify at least one choice available to them in the new area that is not available in their own town.



6. MORE AND MORE GEOGRAPHERS ARE NEEDED

To stimulate your students' interest in geography, to provide "hands-on" experience in constructing maps and graphs, and to increase your students' knowledge of their own state, involve them in activities relating to the field of the geographer. Geographers study distribution of soils, vegetation, landforms, climate, mineral, and water resources. They also analyze political organizations, transportation systems, and construct and interpret maps, graphs, and diagrams. It is a relatively small field but an expanding one. This activity will introduce the various kinds of jobs in the field and develop map and/or graph skills. Introduce the field of the geographer by noting the educational requirements, earnings, employment opportunities, and other information that can be found in the Encyclopedia of Careers (Vol. II, pp 217-220)

6. MORE AND MORE GEOGRAPHERS ARE NEEDED (Cont'd)

or any other reference.

Divide your class in groups for project work. Have the groups make relief maps (use cardboard bases with flour-salt paste) to show the following:

1. Illinois (or other state) lakes, rivers, fertile areas, hills, etc.
2. Railroads and major highways
3. Water-shed areas
4. Soil areas
5. Natural resources
6. Projects
7. State parks
8. Population density

Graphs can be prepared by your students to show:

1. Population growth
2. Average rainfall, etc.

7. JUST CALL YOUR LOCAL TRAVEL AGENT

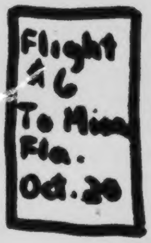
To acquaint your students with the broad field of travel accommodations and to stimulate their curiosity about jobs that are available in this field provide activities related to a travel agent.

1. Use ACTIVITY PAGE 77 to help your students become familiar with terms related to the occupation of a travel agent.

7. JUST CALL YOUR LOCAL TRAVEL AGENT (Cont'd)

KEY

KSTEICT	(tickets)
SAVIS	(visas)
CUOSNIXERS	(excursions)
USERTO	(routes)
ATCACMODOONSMI	(accommodations)
PSMA	(maps)
GABEGAG	(baggage)
STOREVINSAER	(reservations)
TREDPERAU	(departure)
ORUT	(tour)
LAVIRRA	(arrival)
CDSHELSUE	(schedule)
IRTP	(trip)
NAEPALIR	(airplane)
ARNIT	(train)
UBS	(bus)
THOEL	(hotel)
RAUATTRESN	(restaurant)
OSERTR	(resort)
GLIMEEA	(mileage)
XPSEENE	(expense)
BMETILATE	(timetable)
TRSSPOAP	(passport)
TNESDIOIAN	(destination)
NRUTER	(return)



2. Have your students be travel agents and plan a detailed automobile trip for a customer. As a pattern, use road maps and a sample route prepared by an automobile club.

3. Also have them plan a trip by train or airplane. This may involve switching trains and planes, lay-overs, etc. The customers will want to know the time of departure, time of arrival, train or flight number, whether a meal is served, amount of baggage allowed, price of tickets, etc.

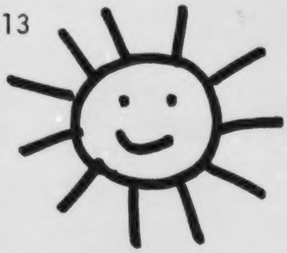
4. Visit the local travel agency. What kind of job characteristics should the travel agent have? What characteristics are important for each of the people who work in the transportation business?

8. REGIONS PROVIDE OPPORTUNITIES

Modern geography courses have advanced beyond the place of geography that was once taught. Today, geography studies aid students in developing thinking skills and in associating ideas. The study of a region, for example, provides many opportunities to examine spatial interaction and aerial association. This can be an excellent starting point for a social studies teacher to introduce career implications of subject content. In the urban region, interesting career opportunities have emerged in urban planning, land use and resources allocation, building inspection and rehabilitation, and mass transportation. Many students could reinforce their understanding of geographic concepts while actively learning more about careers in these fields. The career implications of other topics in geography could be:

TOPIC	APPLICATION
1. Adaptation to the environment	Soil management and land use careers
2. Economic geography	Plant site study and analysis, international business
3. Energy	Energy exploration, production, and management
4. Physical surface of the earth	Geologist, geographer, weather researcher, and announcer
5. Population	Demographer, population planner
6. Urbanization	Urban planning, development, and rehabilitation

Credit - #13



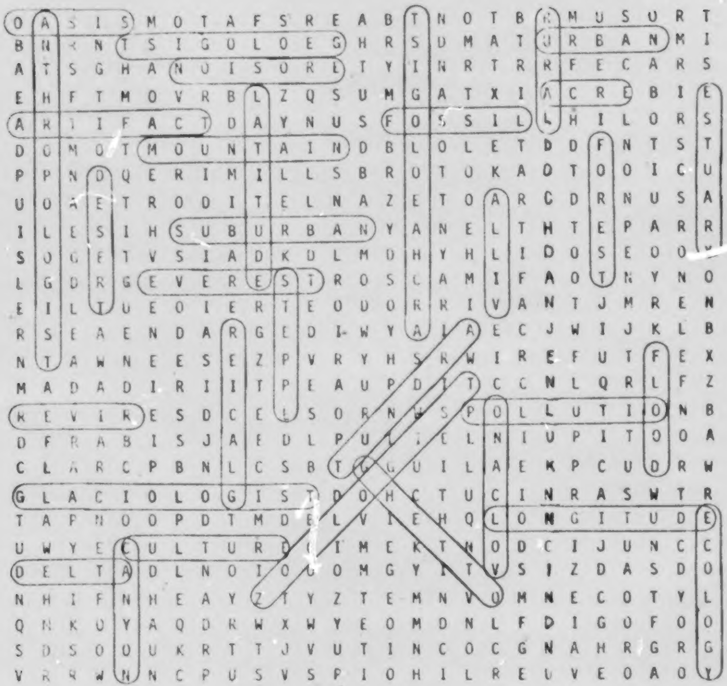
9. TERMS RELATED TO GEOGRAPHY

To help your students become familiar with terms and occupations related to geography have them complete the matrix on ACTIVITY PAGE 79 . These words could be used as a vocabulary and spelling list.

Credit - #14

9. TERMS RELATED TO GEOGRAPHY (Cont'd)

KEY

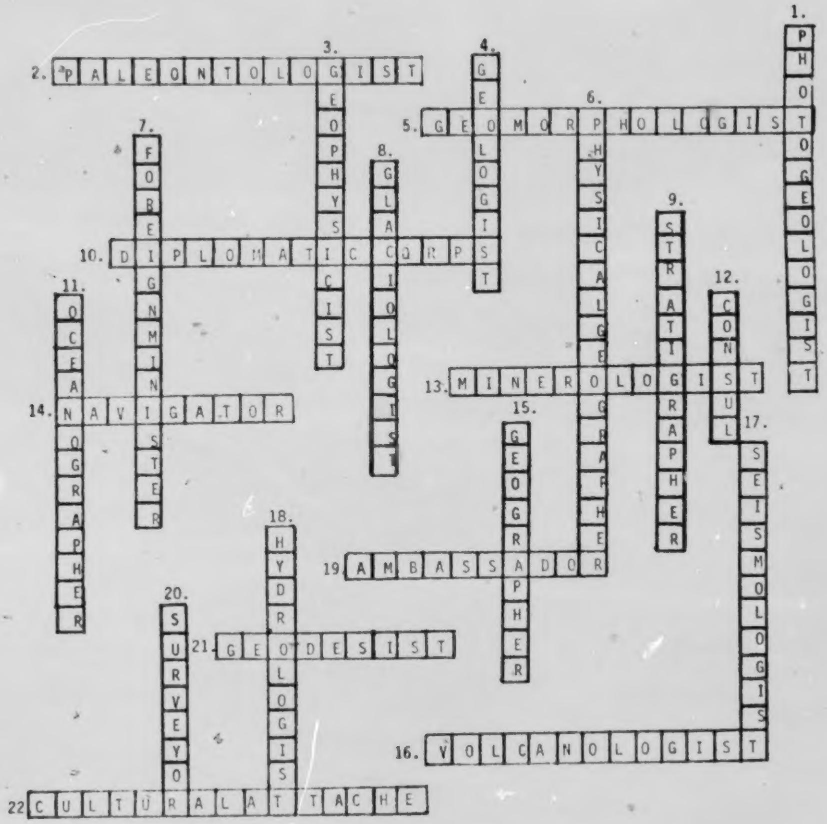


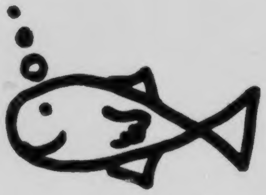
10. A "CAREERS IN GEOGRAPHY" PUZZLE

To help your students become aware of occupations related to geography and to become familiar with the duties associated with the occupations, have them complete the crossword puzzle on ACTIVITY PAGES 81 and 83.

10. A "CAREERS IN GEOGRAPHY" PUZZLE (Cont'd)

KEY


1. PHOTOGEOLOGIST
2. PALEONTOLOGIST
3. GEOPHYSICIST
4. GEOLOGIST
5. GEOMORPHOLOGIST
6. PHYSICAL GEOGRAPHER
7. FOREIGN MINISTER
8. GLACIOLOGIST
9. STRATIGRAPHER
10. DIPLOMATIC CORPS
11. OCEANOGRAPHER
12. CONSUL
13. MINEROLOGIST
14. NAVIGATOR
15. GEOGRAPHER
16. VOLCANOLOGIST
17. SEISMOLOGIST
18. HYDROLOGIST
19. AMBASSADOR
20. SURVEYOR
21. GEODESIST
22 CULTURAL ATTACHE



11. INTERNATIONAL OPPORTUNITIES AWAIT

Have your class explore job opportunities for Americans in foreign

11. INTERNATIONAL OPPORTUNITIES AWAIT (Cont'd)

lands. What differences in jobs might you expect to encounter in another country. What adjustments in life style would you have to make?

ECONOMICS

12. EXPLORE THE CONCEPT OF SCARCITY

Students are to explore the concept of scarcity and the allocation of limited resources. Help them see the relationship between economic decisions that individuals and society make and how these decisions affect the distribution of limited resources in the economic system. Study the scarcity of iron ore and its allocation. This will lead to the study of careers in the steel and mining industries as well as those industries that produce metals that might serve as substitutes for iron and steel. Prepare posters and comparison charts to illustrate the abundance or scarcity of natural resources in Illinois, in the U.S., and in the world.

13. RAGS TO RICHES

Discuss: Is it really possible to go from rags to riches in America today? Can ability and hard work guarantee success for all Americans?

RAGS TO
RICHES

14. EACH WORKER MUST HAVE A SOCIAL SECURITY CARD

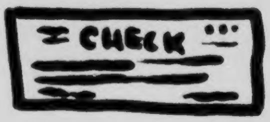
Why do workers need social security cards? What benefits do workers gain from having social security? Have your students fill in the necessary forms and apply for their own social security cards if they have not already been issued a number.

15. FINANCIAL ASPECTS OF DAILY LIVING

Have your class study the financial aspects of daily living:

1. Finances
   a. Keeping records
   b. Balancing checkbook

2. Insurance
   a. Life
   b. Car
   c. Health
   d. Homeowners



3. Home ownership
   a. Financing
   b. Taxes
   c. Upkeep

4. Furnishing an apartment or a home

5. Purchasing and financing a car

6. Investing

7. Income Taxes

8. Dependents

9. Recreation

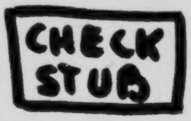
How does salary affect the above aspects?

Divide the class in groups of five. Give each group a yearly salary with which to work. You might also want to include savings, investments, and outstanding bills. Have each group decide how the money would be divided on a monthly basis for the above aspects.

16. WHY IS MY CHECK LESS THAN MY SALARY?

Get some copies of payroll check stubs to distribute to your students. (Blot out names of check owners before giving to students.)

Discuss:



1. Earnings
   - a. Base pay
   - b. Overtime pay
   - c. Gross amount
   - d. Net pay
2. Taxes
   - a. Federal withholding
   - b. F.I.C.A. (Social Security)
   - c. State withholding
3. Year To Date Earnings and Taxes
   - a. Gross earnings
   - b. Federal taxes
   - c. F.I.C.A.
   - d. State taxes
4. Deductions
   - a. Retirement
   - b. Health insurance
   - c. Life insurance
   - d. Union dues
   - e. Bonds
   - f. Credit unions
   - g. Charity (e.g., United Fund)
   - h. Tax sheltered annuity

17. WE NEED TO MAKE MONEY

Divide your class in groups of five students. Give each group the following written description of a money making project.

"You want to take a trip to Springfield to the state capital, and go to McDonald's for lunch. You have decided to raise the money you need for the trip by selling home-made candy. You need to raise $5.00 for each class member to cover expenses of the trip.

17. WE NEED TO MAKE MONEY (Cont'd)

1. How will your group be willing to help?
2. What jobs will need to be done?
3. What kinds of materials will be needed?

Have each group plan the steps they will undertake. Compare and contrast the small group's planning steps. Is it possible to arrive at the same goal using different methods? Which method is the most realistic? Is it possible to combine two or more of the methods to arrive at the best method for the total class?

$5.00

18. DOES IT MATTER HOW YOU GET THE MONEY?

What obligations do we have to others in how we earn money? Divide the class into four groups and give them the following four cases or ask them to make up similar instances drawn from their own experiences. Have the groups rank the individuals in the four cases according to how well they fulfilled their responsibilities to others. Compare and discuss reasons for the order chosen.

CASE 1. Susan, a high school senior, is selling drugs to junior high school students to make enough money to buy a car and good clothes so she can apply for a job as a salesperson. She wants a job because her kid brother is living with an aunt out of state. If she and her mother had a little more money, they could bring him back home.

CASE 2. Charles babysits to make money. He thinks it is a good way to make spending money because he can still have a good time -- he has his friends meet him at the clients' houses. Once a baby was hurt when Charles left him unattended. But the baby stopped crying before the mother returned, so the mother never knew the difference.

CASE 3. The school has asked that all students who wish to participate in field trips bring money to purchase school insurance. Reba does not want to admit to the teacher that she cannot ask her mother for the money. A woman has left her wallet on the store counter. Reba slips the wallet into her purse and calmly walks out the door.

18. DOES IT MATTER HOW YOU GET THE MONEY? (cont'd)

CASE 4. The grocer, in a small neighborhood, picks up extra money by diluting the milk, selling older meat that should be discarded, and overcharging on sales tax. He says that this is necessary. His costs are soaring because of robberies, and the people simply cannot pay higher prices. If he loses money and has to go out of business there will be no food store in the neighborhood and the people need his services.

Having ranked the four cases, the groups might answer these questions.

1. How would you have handled the four problems?
2. What would you do if you had their problems?
3. Pretend that you are the injured party in all four cases. Explain your feelings to your best friend.
4. What does your ranking tell you about your feeling toward earning money?

Credit - #1

19. JOBS, MONEY, BUDGETS

Have your students prepare personal budgets for their remaining junior high years. It should include sources of income and expenditures. Some discussion should center around the outlook of the economy. Form discussion groups to determine if budgets are realistic.

20. I NEED A SNOW SHOVELER RIGHT AWAY

Set up a classroom Employment Center where students sign up for work such as shoveling snow, running errands, washing windows, babysitting, etc. Have some students work as employment interviewers, some to write articles for newspapers, and some to keep books. Calls from "employers" may be handled through the school office or the guidance office. The business will be handled completely through the classroom. Students will earn the money they receive. The employee (student)

20. I NEED A SNOW SHOVELER RIGHT AWAY (Cont'd)

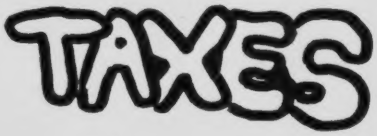
must keep a work record and file a report after each job. This will enable the "office managers" to keep their books in order.

21. YOU AND YOUR UNION

Invite area union leaders, professional association officers, etc. into your classroom for a panel discussion. Ask them to discuss ways in which their organizations protect their members, maintain job security, and what limits or regulations they place on members. Ask them to discuss costs belonging to the organizations and the benefits reaped.

22. TAXES, TAXES, TAXES

Invite the area internal revenue officer to visit your class. Ask the officer to bring W2 forms for your students to see. Have the officer explain in a way that your students will understand, our nation's tax structure. Be sure to leave time for questions.



23. A STRIKE BEGAN AT MIDNIGHT ON THE FIRST

Discuss "collective bargaining" as a model of conflict resolution. What do the terms, grievance procedures, mediation, and arbitration mean? Have your students define: open shop, closed shop, picket, strike, boycott, blacklist, scab, steward, grievance, etc.

Organize a union within your classroom to help your students become aware of the part self-interest and social responsibility play in worker organizations.

23. A STRIKE BEGAN AT MIDNIGHT ON THE FIRST (Cont'd)

Set up a hypothetical bargaining situation. The Snappy Rubber Band Company is presently negotiating a new contract. At this time, employees are making $3.75 per hour with full medical benefits for themselves and 50% coverage for their families. The local union is asking for an hourly raise of $.50 with 75% insurance coverage for the members' families. The union is also asking a change in their vacation allowance. Presently the employees receive one week's paid vacation allowance with an added week for every 7 years they have worked for Snappy. They are asking for this to be changed to an extra week for every 5 years. The management is offering $.25 an hour increase with the 75% insurance coverage for families and no change in vacation policies. Divide your class into management and union members. Let the union decide whether or not to strike and then go into bargaining sessions to arrive at an agreeable contract.

24. POWER IS ACHIEVED

A feeling of power can be achieved in different ways. Discuss what power means to different people. Analyze the following factors as means of achieving power:

1. Position
   a. Elected
   b. Appointed
2. Personality
3. Money
4. Knowledge

Organizations have a power structure. Talk about the effects of this structure on the people within the organization. Who really has the most power? Does the power always lie with that person in that posiiton?

25. WHICH ONE ARE YOU?

Divide your class in groups of five. Have each group create a skit built around a central character classified in one of the following ways:

1. Miser
2. Spendthrift
3. Wise shopper
4. The sale nut
5. The financially broke
6. The keep-up-with-the-Jones' type, etc.

After each skit, analyze the main character's relationship to the economic system. Examine the character's priorities, values, and effect on the economy. How do you see yourself? What characteristics make you that way? Why do you like or dislike yourself that way?

$9.45

HISTORY/HERITAGE

26. I AM A WORKER TOO

Have the students prepare a personal work history including all the jobs they have done, including paying and non-paying ones. After each job, the students will list the skills needed, the expectations for performing the job successfully, and the direction for advancement that that job may take. Have the students share their work histories with a friend or, perhaps, the whole group.

27. YOU WERE A PAPER CARRIER TOO?

Have the children ask their parents to list all the jobs they have ever had during their lives and be sure to have them include part-time jobs. Let each student talk briefly about these jobs. There should be an emphasis that learning takes place on the job, as well as in the classroom, and that both are important to prepare one for

27. YOU WERE A PAPER CARRIER TOO? (Cont'd)

another part of life.

28. LIKE FASHIONS, LIFESTYLES CHANGE

Have the students choose a famous person whose life has changed and have them trace the various alterations occurring in that person's lifestyle. A thorough description at each point in life will include moral character, amount of money made, and leisure time activities. The place one works and the people one works with are influencing factors on lifestyles.

The teacher might have the students then compare that person's lifestyle with the lifestyle the student hopes to have at the same age.

29. MACHINES HELP PEOPLE

This activity will help your students understand how machines work, how they assist people, how machines change due to technology, and how this change affects the people who use the machines. Divide your class into small groups. Assign each group a machine (e.g., windmill, pulley, wheel, elevator, etc.). Suggest some outside research: reading, looking, and doing.

After a week have each group report:

1. How the machine works.
2. How the machine assists people.
3. How the machine has changed over the years due to the changes and conditions in the world.
4. How the change has affected the people.
5. What careers are involved in the production and utilization of the machine.

30. TO TEACH, YOU NEED SPECIAL TRAINING

To acquaint your students with the "inside" processes involved with teaching as a career, involve your students in the following activity:

1. Divide your class into six groups.
2. Designate from one of your textbooks a six chapter sequence from which to work. Each group will choose one chapter to present to the rest of the class.
3. Spend one week meeting with each group to examine resource materials that are available for a teacher preparing to present the material to a class.
4. Spend the second week assisting each group with the writing of daily and weekly lesson plans. The plans are to include supporting materials, as well as class assignments, homework, and testing materials. Each group is to make the proper arrangements for the use of supporting materials.
5. The following three weeks is spent by having each of the groups present their material (in sequence) to the rest of the class. Each group is responsible for evaluation of written work to be done outside of class time. Any tests that are given must be written by the group.
6. After all six groups have presented their chapters take a class vote (teacher included) as to the two most effective teaching groups. What made them effective? What could have made the others more effective? What kind of preparation was required to present the material? What did they like about being the "teacher?" What did they not like? What did they like about their peers being the teacher? What did they not like?

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31. SOCIAL VALUES CHANGE ALL THE TIME

Have your class list achievements of the following groups:

1. American Indian tribes
2. A hippie commune
3. A communist country, etc.

Divide the class in three groups to study different examples of social values regarding the achievements listed. Have your students compare their own achievement values with the above cultures.

32. WORK RULES MUST MEET EMPLOYERS STANDARDS

The following work rules were imposed on the employees of a Chicago department store: (quoted from a 1857 handbook)

1. The store must be open from 6 a.m. to 9 p.m. the year round.
2. Each employee must pay not less than $5.00 per year to the church and must attend services regularly.
3. Men employees are given an evening a week for courting and two if they go to the prayer meeting.

How would these work rules be accepted today? What has happened to cause a change in work rules? What are work rules like today?

Work Rules

33. WILL WE HAVE ANOTHER LOSS LIKE THE 1929 CRASH?

Have your students read accounts of the "1929 crash" and the depression of the 1930's. What implications did this have for workers of the 1930's? What measures has our government taken to prevent another depression?

34. THAT IS A DEBATABLE QUESTION

Form two teams to debate this idea: "Resolved that opportunities for individuals to go into private business today are as numerous as in the 1900's."

35. NOW THAT IS RISK TAKING BEHAVIOR

Study examples from history of risk taking behavior, such as the "decision to drop the bomb." What kind of effect do the decisions of some have on others? What kind of people do we trust to make decisions when those decisions will directly affect others? What processes are involved in making decisions? What kind of decisions do we make that affect others?

36. TECHNOLOGY CHANGES EMPLOYMENT OPPORTUNITIES

Changing technology has an effect on employment opportunities. Trace the effect technology has had on employment opportunities since 1900. To do this, have your students identify five machines or products that have shown a great deal of change since 1900 (or any date you determine). How did the changes affect employment opportunities?

37. INVENTIONS

One topic taught in history courses that can be related to career evaluation is technological change. From studying early history, you can find simple forms of technological inventions to serve as springboards for studying career implications -- (tools for gathering and producing food, fire, writing, etc.). Inventions appearing after the tenth century (modern form of the clock, printing press, factory system, ball-point pen, telephone, computer, etc.) can be used to continue student career awareness. Your students can examine the effects of these inventors on people's working lives and explore how inventions terminated some jobs and created others. Develop group projects to guide student study of job families, specific occupations, career change, social implications, and cross-cultural implications. Use the topics in your text or some of the topics given. The following history topic examples will give you some ideas to guide student study of an industry:

37. INVENTIONS (Cont'd)

TOPIC	APPLICATION
1. Agricultural revolution	Food related functions: growing, processing, packaging, distributing, preparing, wholesaling, jobbing, warehousing, retailing, and dietetic careers
2. Emergency of complex living patterns	Urban planning, development, and rehabilitation; trade, social work, occupational training, government administration careers
3. Epidemics and catastrophes	Health, land use and restoration, fire protection, law enforcement, and social service careers
4. Ethnic studies	Teaching; esthetic careers in writing, art, and music
5. Exploration and colonization	Space exploration, marine science, aerospace industries, trade, international economic development careers
6. Lives of people	Biographer, leadership training, administration, management, human service, research, invention
7. Preservation of artifacts, architecture, institutions, and values	Archeologist, anthropologist, architect, designer, planner, museum work
8. State history	Careers related to geography, economics, and culture of the state
9. Use of scientific tools to study the human experience	Careers in historical study and analysis
10. Wars	Weapons and ordnance manufacture, distribution, and acquisition, Armed Forces and military education careers

Credit - #13

38. UNITED STATES HISTORY: "WILD WEST"

When studying the history of the "Wild West" involve your students in the following activities to emphasize public service careers:

1. Identify the occupations of immigrants in the Old West and compare them to the occupations of people in the modern day West.
2. Compare the role and responsibilities of the "Indian agent" during the Wild West period with those of the government worker on today's Indian reservations.
3. Compare the role and responsibilities of marshalls, deputies, and sheriffs in those days with today's law enforcement officers.
4. Analyze the relationship of settlers in the early West to the environment, recognizing that an abundance of natural resources tended to encourage waste and that what we see in movie houses and on television today is not necessarily "the way it was." Identify the resulting problems and attitudes today.

As an additional activity role play a town meeting at which the problem of law and order is being considered: A man has been accused of a brutal murder and thrown in jail. Several people in the town have differing and conflicting views about what should be done. Roles to be played include: sheriff, judge, mayor, arresting deputy, victim's relatives, prisoner, prisoner's relatives, persons in favor of lynching, and those against. Follow with a discussion of why a trial should be held and why early Westerners sometimes took the law into their own hands. Include a discussion on mob behavior.

Credit - # 13

39. AUTOMATION - CYBERNATION

What do the terms "automation" and "cybernation" mean? What are the effects of automation? What effect does it have on workers? Discuss:

1. If you were a coal miner who was replaced by a machine, how do you think you would feel about automation?
2. Is it possible that this automated age will outmode people to the point that machines, rather than humans, will be in control of society?

GOVERNMENT

40. WE ALL HAVE INDIVIDUAL RIGHTS

Have students look at national and state legislation dealing with the rights of both individuals and groups. Each student in the work group could cover a different movement such as women, minorities, migrants, and people of low income who have been granted equal protection under the law. Students might also look at such documents as the Emancipation Proclamation, the 14th Amendment, various Indian treaties, immigration laws, literature about the emergence of organized labor, the 20th Amendment, the Civil Rights Act of 1964, and the Equal Rights Amendment. Also of interest is the government's role in broadening education to make it available to everyone through federal support of public education, loans to post secondary students, concern for quality education, etc. The emphasis should be on social progress and how the legislative and judicial processes have been used to attain equality. (Some of the students might want to discuss the limitations of the legislative and judicial processes.) State and local laws could be examined for examples of discrimination based on stereotypes. Someone in the group might want to look at how career choice in the past depended heavily on the father's occupation, and contrast that with today's wider range of training and career options.

As a culminating activity have each group present their findings.

Credit - #1

E.R.A.

41. CRIMINAL JUSTICE SYSTEM IN ACTION

Have your students page through your local TV guide and list all the programs shown each week that have to do with crime. Assign each student one program to watch. Have the students make a list of the occupations of the people who deal with the crime on the program they are assigned (e.g., police detectives, specially trained police units, paratroopers, scuba divers, lawyers, judges and prison workers).

Talk about the criminal justice system and the fact that much of what we see only has to do with crime itself and the sentence of the offender. Hardly anything is said about what happens to offenders once they enter prison, about the influence of special correction programs, parole, and rehabilitation efforts. The criminal justice system, sometimes

41. CRIMINAL JUSTICE SYSTEM IN ACTION (Cont'd)

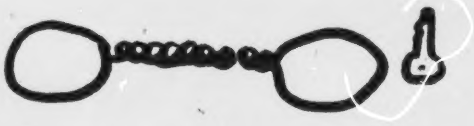
called the law enforcement system, includes jobs related to preventing crime, enforcing the criminal laws, and dealing with convicted criminals. Knowing this, have your students take the lists they have from watching their programs and divide it according to those three areas:

1. Police work
2. Court system
3. Corrections work

As all of these workers attempt to protect lives and property from criminals, these jobs make up a part of the personal and public service cluster of occupations (Illinois Five Cluster System).

From the major list of identified occupations, have the students, individually, choose one occupation of their choice to research. Have them find out about the amount and type of education and training, workplaces, typical duties, and annual salaries. Have them list advantages as well as disadvantages (danger, long hours, irregular schedules) of their occupational choice. Take several days to hear the reports of each of the three areas of the criminal justice system; police work, court work, and corrections work.

In addition you might want to visit a court in session, visit the state patrol headquarters, and visit the county jail to observe criminal justice workers first-hand. Have your class write a story about a committed crime. Simulate the resulting court action. Select a jury, victim, lawyers, law enforcement officers, court steno, etc.



42. I WANT BENEFITS

Have your students make up a list of benefits a company might offer its workers. Discuss the meaning of a union and why unions are formed. Have the students form a union and choose those benefits that a restricted company budget could afford.

An example like this might be helpful:

There are 100 workers in a small textile factory. They are negotiating for a new contract and considering several benefits. However, they are allowed to select only a few of the many suggested ones because the company budget provides only $40,000 for new benefits. You are

42. I WANT BENEFITS (Cont'd)

a union representative. Which of the following benefits would you choose:

1. Money for additional wages - 3¢/hr./worker for the 1st year; 8¢/hr./worker for the 2nd year, and 9¢/hr./worker for the 3rd year -- a total cost to the company of $56,000 over a three-year span.
2. Additional health insurance -- $20/yr./worker would cost the company $2,000 a year.
3. An extra paid 15 minutes for lunch -- would cost the company $18,750 a year.
4. A company picnic -- would cost the company $1,000.
5. A day care center for workers with children -- would include $8,000 for a teacher, $4,000 each for 2 aides or $2,000 each for 4 college students, $4,000 for equipment, and $2,000 for operating costs. This totals to $22,000 and the company would be willing to pay half or $11,000.
6. Special training for new employees -- $5,000 a year.
7. One day/year release time for personal business leave -- $5,000 a year.
8. Five days of sick leave/year/employee -- $12,000 a year.
9. Company sponsored educational courses -- $30/year/worker would cost the company $3,000 a year.
10. Laundry services for company uniforms -- $2/week/worker would cost $10,000 a year.
11. Bus fares to work -- it costs 70¢ for a round trip ticket to work. The company would agree to pay 1/2 of the bus fare for those workers who use the bus. It would cost the company approximately $8,550/year. (The company prefers this plan because it is tax deductable, cuts down on pollution, and prevents the building of a new parking lot.)
12. Company recreational park -- includes ball diamond, swimming pool, picnic area, tennis court, playground equipment, and maintenance. Total cost would be $80,000 for a 4-year plan or $20,000 a year.
13. Christmas bonus -- $200/year/worker for a total cost of $20,000 a year.

Perhaps you could divide your class into four groups and have each group decide which benefits they would choose. After each group presents their choices to the total group, discuss and then see if you can come to a large group consensus on benefits.

BENEFITS

Credit - #2

43. POWER IN MUNICIPAL GOVERNMENT

Invite someone from your local government, preferably an elected official, to discuss how power is obtained and used in governing others. Discuss:

1. The power of public office, both formal and informal.
2. How knowledge of public opinion and public relations can be translated into power.
3. What other knowledge and skills it takes to gain public office.
4. The difference between power in public careers and in private enterprise.
5. Restraints on the power of public officials.
6. Responsibilities of persons holding public office.
7. Legitimate ways for citizens to express grievances.

Then divide students into small groups to select a nominee to represent their community in a mock election for public office (mayor, council member, school official, etc.). Have each group work out a platform that they think would appeal to the voters in their neighborhood. The platform should attempt to answer two questions. First, what the group thinks needs changing. Second, how the group proposes to change things? Each candidate might then present the group's platform in mock elections. The voters could discuss the results according to how well the platforms reflected an understanding of community needs and what additional knowledge, skills, and resources real candidates would need to know.

Credit - #1

44. DUTIES OF U.S. POSTAL EMPLOYEES

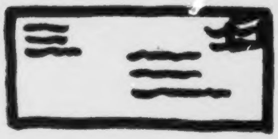
To help your students become aware of duties associated with the U.S. Postal Service involve them in the following activities:

1. Have them list the occupations that are involved in delivering mail (e.g., postal distribution clerk, postal clerk, mail carrier, mail handler). Have them find out the duties and responsibilities of each.
2. Display, and allow the class to examine, a map showing regional and area breakdowns for the first two numbers used in zip codes. Discuss zip code numbers and how they work.

44. DUTIES OF U.S. POSTAL EMPLOYEES (Cont'd)

3. Then, have your students plan mail routes for particular sections of your city or town, including collection boxes and routes, post offices, and delivery routes.

Jobs related to the U.S. Post Office are government jobs. How does one go about getting a government job? What are the different levels of government jobs? What are the requirements for obtaining a government related job? Discuss the advantages and disadvantages of government employment.



45. FOREIGN SERVICE JOBS

Diplomats, clerks or stenographers, United States Information Agency workers, and ambassadors all belong to the foreign service of the United States.

Choose students to do some research on the following jobs related to foreign service: (or use others of your choosing)

1. Deputy Chief of Missions or Political Counselor leading to appointment as Ambassador
2. Typist or secretary
3. Television or film director in United States Information Agency
4. Radio announcer for Voice of America broadcasts
5. Communications or records assistant
6. Assistant to the Consulate

Then appoint 3-5 students to serve as members of the Foreign Service Examining Board. They should have some background on the personal qualifications, educational and health requirements, and other pertinent facts pertaining to the above mentioned jobs.

Have the Examining Board interview the students for the position of their choice. Limit interviews to two minutes. Having these students communicate information regarding qualifications and pertinent facts about foreign service jobs should help the rest of the class gain insight into the job possibilities in the field of foreign service.

46. EXPECTATIONS FOR STUDENTS

Society holds certain expectations for people. Different things are expected of students at different times. What expectations do school officials have for students during the school day (e.g., dress and appearance, promptness, attendance, participation in discussions, neatness of written work, etc.). Analyze the reasons for different expectations. What effects do they have on you as a student? Have your students interview school personnel about rules, policies, and expectations that guide adult work in the school.

47. AUTHORITARIANISM AND DEMOCRACY

Discuss authoritarianism and democracy as it relates to women's liberation, family structure, and adolescent rebellions toward authority.

SOCIAL SCIENCE

48. POLL THE COMMUNITY

To see what goods or services your community would purchase if they were provided, have your students plan and conduct a community survey. Things they might want to find out about might include: recycling paper, collecting empty bottles, selling school and community newspapers, unusual crafts, small toys and candy.

Have your students develop a simple survey form on which to determine consumer reaction. If your city has a market analysis firm, perhaps they could share some sample survey forms and other polling techniques. Pick a day, after school or a Saturday, on which to poll the community. After compiling the information invite a retailer to class to discuss the results of the poll and ways to interpret the data.

48. POLL THE COMMUNITY (Cont'd)

Using the data they collect, have your students make maps, charts, and graphs to record and analyze their data.

49. CITY PLANNING

Have your students learn about the duties and responsibilities of a city planner and how the person's occupation affects the future of city development. The city planner provides an overall concept and the details for a plan to utilize land and facilities in the city. To have your students learn about some of the problems a city planner encounters, have them list facilities and services which must be included in the city. For example:

1. Facilities: businesses, transportation, housing, etc.
2. Services: electricity, water, garbage collection, etc.

Give each student a map of a section of your city and ask each to plan a traffic pattern, garbage collection route, mail route, or some other service. After the students justify their particular solutions to their chosen problems divide the class into small groups and have them discuss the merits of the various solutions.

One of the problems which a city planner must face is that of changing street patterns. Have each student plan a layout for a small city including the areas to be used for business, residential, and recreational purposes. Provide your students with information regarding the location of natural resources in the city in terms of water, power supply, and access to major transportation routes, etc. The students will each develop a street layout for their city. Make copies of each city for the rest of the students to study. Discuss the city plans that would work and those that would not and why. See if the students included all the facilities and services they had listed in the beginning of the activity.

Discuss the qualifications, responsibilities, advantages, disadvantages, salary, etc. of a city planner.

50. FINDING FACTS

Have your students find out about the abilities, interests, training, personality factors, and values that lead to success in people-oriented (service oriented) occupations. Have them choose a work role to research, (e.g., restaurant worker, social worker, teacher, health care worker, counselor, minister, coach, physical therapist, etc.). Have them use library resources and personal interviews to gather their data. Discuss the findings. How are the above characteristics similar for the different occupations? How do they differ?

51. GROUP DATA GATHERING

Divide your class in groups of two or three to observe and interview work groups within your community (e.g., service groups, PTA, business groups, civic organizations, volunteer committees, etc.). Have them find out about how the groups identify their needs, assign tasks, solve problems, and share rewards. How does the organization benefit the members and/or member groups? How do they benefit the community? Discuss the findings. What community and social needs are being met by these groups working together?

52. ALONE ON AN ISOLATED ISLAND

Have your students write down items that would be required for existence if they were stranded on an isolated island. Opposite the item have each student write the name or occupation of the person who is usually responsible for that item. After the exercise, discuss the services and/or goods which students in the class provide for others. These may be paying or non-paying services or products. It should be made clear that people are very dependent upon each other in the working world and this dependence begins at birth and continues throughout life.

53. PLANNING CHARTS

Invite a self-employed person from the community to discuss considerations and decisions to be made when starting a business. The class should determine:

1. What steps to take to accomplish the task.
2. What work roles need to be established.
3. What rules and management structure the company will need to operate.
4. Who is going to perform specific individual and group tasks.

Planning charts such as the one shown may be drawn by students to help them keep track of their plans and progress.

Depending on the nature of the business, consider such options as assembly line processes, selling stock in the company to acquire needed tools and raw materials, marketing and advertising, customer relations, sales, packaging, and distribution.

OBJECTIVE	TASKS	PERSONS/GROUPS RESPONSIBLE	TARGET DATE
1. Obtain needed Capital	1. Determine costs	Math/Accounting Unit	
	2. Draw up stock certificates	Art & Display Unit	
	3. Determine how many shares must be sold at what cost	Math/Accounting Unit	
	4. Sell stock at given price	Sales Unit	
2. Acquire raw materials	5. Conduct comparative cost study for needed items	Accounting Unit	
	6. Purchase needed items and bring to class	Production Management Unit	

54. THINGS, IDEAS, PEOPLE

Discuss the idea that occupations can be classified by the worker's degree of involvement with things, ideas, or people. Divide the class into three groups. Allow the students to choose, according to their interests, from the following workers: chemist, professor, or motorcycle driver. The groups should appoint one member to take notes. Ask each group to list as many occupations as possible that are similar to the one they chose.

Next, hand out discussion guides similar to the one suggested below and ask the groups to think about each occupation on the list in the same way. Perhaps you could duplicate the chart to use as an activity page. Students could check off responses on each occupation in their group list. After a reasonable length of time, each group should report its observations to the entire class. Discuss similarities and differences.

DISCUSSION GUIDE

What does the worker produce?	a. Goods b. Services
Where does the worker usually produce the goods or services?	a. Inside -- Outside b. Home -- Profit-making company, Nonprofit company c. In one location -- Traveling
When does the worker produce these goods or services?	a. During certain hours, then has no further obligation. b. Generally during certain hours but often works beyond this in order to accomplish tasks. c. Working hours vary according to the time of year. d. Often works on weekends, holidays, etc.
What special skills does the worker use at his or her job?	a. Does special physical things (drive, run, build, play an instrument, lift, sort, etc.) b. Applies or develops special knowledge, mathematics, reading and writing skills, etc.) c. Applies both of the above kinds of skills

54. THINGS, IDEAS, PEOPLE (Cont'd)

How did the worker acquire these skills?	a. Home b. Elementary school c. High school d. Education beyond high school e. On the job f. Apprenticeship g. Self study

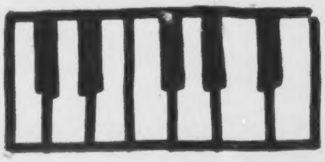
Credit - #1

55. WAYS OF LOOKING AT OCCUPATIONS

Invite workers from four or more of the following occupational groups to visit the classroom on several consecutive days: skilled trades (carpenter, plumber, etc.); scientific or technical; artistic, musical or literary; educational or social services; managerial or sales; office or clerical; and careers in the out-of-doors. Before the first person arrives, discuss with the class four ways of looking at occupations, (in terms of personal preference for various kinds of work; people, things, ideas involvement; educational or training requirements; and values). These classification schemes are illustrated in Figures 1, 2, 3, and 4.

Ask each visiting worker to describe briefly the job, and his or her co-workers. Then have each rate his or her job according to the four classifications. (Using the board or a transparency, reproduce Figures 1, 2, 3, and 4.)

After all the workers have made their presentations, have students discuss individual preferences for specific types of work, based on their own assessments of the personality factors, values, desire for working with things, people, or ideas, and interest in the necessary education or training.



55. WAYS OF LOOKING AT OCCUPATIONS (Cont'd)

	Does not Apply	Applies Somewhat	Definitely Applies
Helping Others: Prefers teaching, counseling, therapeutic role; uses interpersonal skills, verbal skills, socially oriented.			
Persuading Others: Prefers situations that provide opportunity for selling, persuading, leading others; uses verbal skills.			
Organizational: Performs structured verbal and numerical activities designed to make the internal workings of the organization secure. (clerical bookkeeping, and processing jobs fall in this category)			
Investigating and Expressing Ideas: Enjoys ambiguous work tasks; deals with problems through self-expression in artistic media or through analyzing problems to find solutions; attempts to organize and understand the world.			
Technology: Produces things and/or fixes things; applies to engineering, skilled crafts, and trades; concrete tasks as opposed to abstract social problems.			
Out of Doors: Prefers work activities that involve physical exertion, little or no confinement to office; agriculture, forestry and wildlife management, truck drivers, etc.			

FIGURE 1

55. WAYS OF LOOKING AT OCCUPATIONS (Cont'd)

Rank (1,2,3,)	% of Time Involved With
IDEAS	
PEOPLE	
THINGS	

FIGURE 2

Type of Training and/or Education	For How Long?
Elementary School Junior High School High School Vocational/Technical School Junior College Correspondence School College or University Apprenticeship On-the-job Training Graduate School Others	

FIGURE 3

55. WAYS OF LOOKING AT OCCUPATIONS (Cont'd)

Have students develop their own list of values to consider. Suggestions are given here, but a list generated by students will be better.

How important are the following considerations regarding career choice to you?			
	Very Important	Somewhat Important	Relatively Important
Location-(near home, urban, coastal, inland, frequently changing location, constant travel, etc.)			
Leisure Time-a lot of vacations. free time, demands work or planning beyond regular work hours, work shifts with changing hours, seasonal, etc.			
Authority-(whether or not you are on your own to make decisions, directing the work of others, etc.)			
Working with other people or working alone			
Job Security			
Pay			

FIGURE 4

Credit - #1

56. BIG DECISIONS, LITTLE DECISIONS

We all make many decisions daily. Some are more important than others.

1. Have your students write ten decisions they had to make yesterday or today. Then have them check the five they think were most important for them to make. Have them put a box around the decision they had to make that was the very most important!
2. Discuss "DECIDING AND DOING." What decisions do you make. What things do you consider in making decisions?
3. Discuss the kinds of decisions people of varying age groups make: 13-year-olds, 18-year-olds, 25-year-olds, 40-year-olds, 65-year-olds, etc. Does the decision making process vary for persons of varying ages or does it stay the same?

DECISIONS

57. OH ME! WHAT SHOULD I DO?

Everyone makes many decisions every day. Most of the time we handle these decisions easily. It is when the two choices are both attractive that we begin to have problems. Or, it may be difficult to decide when an obligation becomes more apparent than a fun type activity.

1. Pose the following situation to your students: Your clarinet solo at the assembly was exceptional. The state contest is during Spring vacation. The director wants you to go to the concert. This is "great" since your wildest dream is to play in the director's ensemble. Your family decides to go to Florida during Spring vacation and go deep sea fishing at the same fantastic place you went last year. You can go or stay home with your aunt.
2. Your work at school has been exceptional except for history. The plan was that if you did very well in all subjects, you would earn the new bike you wanted. Some of the students in history have asked for special projects to do over Spring vacation to bring up their grades. These projects are due the Monday after vacation.
3. Some of your friends are encouraging you to run for student body president. You've secretly wanted the position because one of the highlights is the state convention trip. But running would also mean organizing a campaign during Spring vacation.
4. Your neighbor's early morning paper route job will be available on April first. If you had a bicycle, you would really like the job so you could earn some spending money.

57. OH ME! WHAT SHOULD I DO? (Cont'd)

5. What 5 choices would you have to make? What are the consequences of each choice? What people do your choices affect? What would you do and why?

Have each student try to persuade a classmate who has made a different choice that his or her choice was the wisest. Have them individually give as many reasons as they can to support their decisions.

58. MAKING DECISIONS IS FRIGHTENING

Deciding a course of study for high school is often frightening to students. Ask the junior high school counselor to come and talk about state and high school requirements for graduation, as well as areas of specialization offered in the high school.

Invite high school students in business, home economics, agriculture, distributive, and industrial education classes to visit the class and explain:

1. The job for which they are training
2. How school is helping them for their work both now and in the future
3. Their training procedure

Take your students on a field trip through the high school. Have the principal describe the different courses which are offered. Allow the students to "shadow" a junior or senior for the day. Ask them to discuss their courses and why they decided on those courses. Ask your students to explore courses which they might like to take. Give a basic review of the five Illinois Career Clusters. Divide your class into groups according to the clusters they wish to explore. Ask your students to investigate the type and amount of training needed for a chosen career and related areas. Have the groups make charts of the clusters and training needed for specific jobs.

ILLINOIS FIVE CLUSTERS

Applied Biological and Agricultural Occupations
Business, Marketing, and Management Occupations
Health Occupations
Industrial Oriented Occupations
Public and Personal Services Occupations

58. MAKING DECISIONS IS FRIGHTENING (Cont'd)

After all the areas have been explored, have each of the students outline a basic high school course of study. After the students have the initial plan, talk to each of them about the type and amount of additional training that might be needed for their choice of occupation.

59. HOW TO GET A JOB AND KEEP IT

Divide into groups of four or five people; discuss the specific attitudes and characteristics a person must have in order to get a part time or full time job. Each group should list at least 20 such characteristics and should then pick out the five most important. Groups will return to the larger group and report their findings. Following the group discussion, essays concerning personal attitudes toward the particular job might be written or speeches might be given.

60. DEPENDABILITY AND RESPONSIBILITY

Hold a discussion using the following questions:

1. Why do you think attendance and promptness are stressed in our schools?
2. How many of you have been tardy for no real reason?
3. How many of you have been absent when you really would not have had to be gone?
4. Do you realize that one of the first things many employers look at, when you apply for a job, is your school record?
5. Ask students to complete the following questions:
    - a. How many days have you been absent this semester?
    - b. What were your reasons for absence?
    - c. If you earned $2.30 an hour, and you were absent for an 8 hour day, how much would you:
        - 1.) Lose in a day?
        - 2.) Have lost for the semester so far?
    - d. If you were an employer, how would you feel about

Responsibility

60. DEPENDABILITY AND RESPONSIBILITY (Cont'd)

people who were absent from work very often?
e. Could your attendance record be improved? How?

61. PROVIDE STUDENT HELP

Develop a method by which student-help can be provided for several school activities. In so doing, you can provide realistic employment procedures for your students.

PROCEDURE:

1. Compile a list of available jobs.
2. Write job descriptions.
3. Post job descriptions on Employment Bureau Bulletin Board and advertise on the school intercom system or via the daily bulletin.
4. Have interested students fill out application forms.
5. Have Employment Bureau workers screen applications. (Could be made up of yourself and several students.)
6. Have the sponsors of the job review suitable applications and conduct interviews.
7. Keep all job applications on file.
8. Have the sponsor evaluate the worker. Keep these evaluations on file for future reference.

Use the student application form found on ACTIVITY PAGE 85.
You might want to role play job interviews with your students before they go for their first real interview. (See next activity)

Employment
Bureau

62. JOB INTERVIEWING IS SCAREY

The job interview is an essential and critical part of obtaining any job. Many students are not familiar with the types of questions asked during an interview or the procedures they may be asked to follow.

Discuss the importance of dress and manners as well as personal ability to "sell oneself" during the interview. Discuss the pro-

62. JOB INTERVIEWING IS SCAREY (Cont'd)

cedures that are usually followed:

1. Announcing oneself to the receptionist
2. Greeting the interviewer
3. Actual interview

To help your students become comfortable during an interview and knowledgeable about the procedures have them participate in the interview skit on ACTIVITY PAGES 87 and 89 .

To have your students become aware of what could happen, have five students present the skit on ACTIVITY PAGES 91 and 93 .

SOCIOLOGY/ ANTHROPOLOGY

63. KNOW YOURSELF

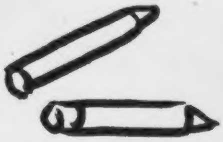
To have your students start thinking about themselves, their feelings, and their values, have them complete ACTIVITY PAGE 95 . Stress that they should be honest with themselves as their responses will not be shared. Why is it necessary to know yourself? How will knowing yourself help you when you think about occupational choices?

64. WHAT ABOUT ME?

Have your students divide a page into three sections,

MY ABILITIES   MY LIMITATIONS   MY INTERESTS

Then have them list ten of their own characteristics in each column. Designate from low (1) to high (10) as to the quality of each characteristic. Circle the three highest rated items on each list. Form discussion groups of four people each to talk over findings of their survey and determine if the findings were accurate and if they provided insight into job choices. Have the students choose five jobs which might fit these abilities, limitations and interests.



65. LEADER - FOLLOWER? IT TAKES BOTH

Have the students form groups of four or five people each. Each group is to choose a recorder and then list in ten minutes as many characteristics of a leader as they can. Have the recorders from each group make a composite list upon the board. Ask the students, still in their groups, to decide on three characteristics they feel are most important for leaders.

Discuss:

1. How can you benefit by being aware of the characteristics of a leader?
2. Name several people in your room who are good leaders.
3. What makes them good?
4. List these characteristics.

Carry out the same process for determining characteristics of a good follower. No group can function properly unless there are both leaders and followers. Discuss situations where a person might be a leader one time and follower another time. What factors determine whether one is a leader or a follower?

66. PERSONALITY INVENTORY

When employers look for a person to fill a position they look for a person with certain qualities. Have your students complete ACTIVITY PAGE 97 and 99 to see how they would rate themselves on qualities employers seek in prospective employees. Again, stress that this is for their information only so they should be honest in their answers. This inventory would be a great lead-in for discussion dealing with the 11 qualities listed.

As an added activity hold a panel discussion. Ask a group of personnel directors from area businesses to hold a discussion in the classroom on the expectations of employers. Conduct mock interviews and ask personnel directors to comment on them.

67. DEAR DIARY,

Have your students keep a daily diary for a week. Have them write at least ten statements each day that include a feeling (e.g., I was elated and excited about the "A" I got in math. However, it made me feel sad when I noticed Mary's face when she saw the "D" she received).

Have them include what the weather was and try to describe the feeling it gave them.

At the end of the week, have your students tabulate the different emotional feelings. They should determine if the feelings they expressed most in their diary actually was the way they felt that week. What might have been their attitude if they had been on a job? Discuss personal feelings in relation to the way one performs various tasks both while working and playing. Also discuss how you handle the way other people respond to their emotions.

Dear Diary,

68. TO ME THE MOST IMPORTANT THING IS....

List on a sheet of paper these items which influence a person's life style:

68. TO ME THE MOST IMPORTANT THING IS .... (Cont'd)

1. Freedom to make decisions
2. Income
3. Regular working hours
4. Opportunity to influence the thinking of others
5. Recognition
6. Use of special skills and abilities
7. Free time for hobbies or recreation
8. Opportunity to help other people
9. New and varied experiences
10. Clean and pleasant place to work
11. Involvement of family in work
12. Personal pride in product

Ask each student to rate these items in the order of their importance. Then have the students prepare and give speeches about why those characteristics are important to them.

69. HOW DO YOU RATE ME, MR. JONES?

Suppose that your classroom situation is a job situation. You, as the teacher, are now the job supervisor. Be as honest as you can and rate the workers in your class according to the following criteria for a week. Be sure to tell your students ahead of time that you will be rating them throughout the week. Use ratings of excellent, very good, good, fair, or poor on the following categories:

Appearance
Grooming
Poise
Courtesy

Attitudes
Initiative
Enthusiasm
Interest
Tact
Responsibility
Alertness

Cooperation
With Co-Workers
With Supervisor
With Customers

Industry
Accuracy
Speed

Production

As the supervisor, discuss your ratings with each individual worker. Be sure to stress the individual's positive ratings before working out a program of improvement for the poorer rated categories.

70. CANNED OPINIONS

On cans or boxes (you will need three for each student to use at one time) put something similar to:

1. This is me.
2. This is not me.
3. This is me sometimes.

On cards, write various descriptive words, a variety of social activities, etc. The student chooses a can for each response.

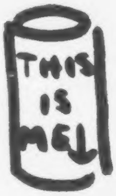
Possible items might include:

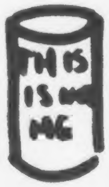
Attractive
Athletic
Shy
Boring
Leader
Smart
Kind

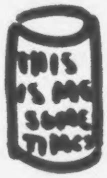
Religious
Tired
Lazy
I like my father
I am happy most of the time
People like me
I've got problems
I like my grandmother

When the students finish they might:

1. Discuss the results with a friend.
2. Write a paragraph .... I am ....
3. Choose one item they want to change and discuss with a friend how to work on it.







71. THESE ARE A FEW OF MY FAVORITE THINGS

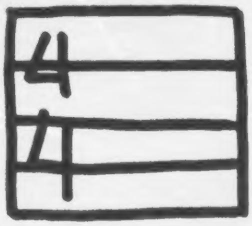
To develop students' self-awareness and strong, positive feelings about self, try reflecting on a few of MY FAVORITE THINGS AND PERSONS. Use these or other suggestions:

1. Food
2. Sport
3. Clothes
4. Job
5. Animals
6. Treasure/Object
7. Class
8. Friend
9. Quality about myself

In groups of three or four, students will discuss their likes and dislikes by responding to questions posed by the group which cannot

71. THESE ARE A FEW OF MY FAVORITE THINGS (Cont'd)

be answered with a simple "yes" or "no". Each student can select three questions to ask the person being questioned during this sharing time. After the entire group has discussed a particular topic, each person should write down, "The most interesting thing I learned about ___________" and the person being questioned will write one statement which expresses, "During this discussion I discovered that I ______________________________." Allow for the possible response that "I do not like to talk about these things with people whom I don't know as good friends."



72. AM I REALLY LIKE THAT?

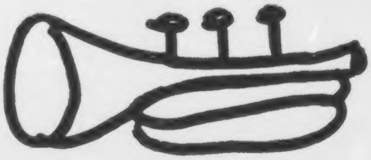
Look at these phrases and determine if you are a person who can be described in that way:

1. Sticks up for friends?
2. Likes to have teachers praise you?
3. Sticks with a task until it is finished?
4. Likes the out-of-doors?
5. Enjoyes playing team sports?
6. Is good at several different things?
7. Will try something new just for the challenge?
8. Waits until the last minute to do things?
9. Prefers to be alone a lot?

After the list is complete divide the students into groups of three. Have them write "yes" or "no" or "sometimes" next to each phrase. Then ask them to fold back their papers so that their answers do not show and exchange papers. Have each student in the group guess how the other two responded to each of the phrases. Then compare notes. Discuss how the messages we send to one another by our actions mean different things to different people.

73. ME, PLAY A TRUMPET? I PLAY DRUMS!

Take a visit to observe band practice. Ask the band students to play a piece of music to the best of their abilities, trying to do those things that are expected of them. Then have them exchange instruments with another person in the band. Again have them try to play the same piece of music to the best of their abilities. It only takes a short time to impress upon students that each worker has an important part to play in the working world. It usually is the case that no one can do your job just like you can.



74. LOOK IN THE CAREER FILE

Divide your class into five groups representing the five Illinois Occupational Clusters. Have each student collect information on a specific occupation within that cluster (e.g., job qualifications, common expectations for that job, responsibilities involved, policies and procedures for that work and how that job is interdependent upon others. After the information is collected, discuss within each group options open to a person within the cluster. Investigate types of retraining, relocation, or other related factors the students might be faced with if forced to find other employment. Record all information on note cards and build a file for future reference. (See Springboard No. 58 for list of Illinois 5 clusters.)

75. GETTING ALONG IS IMPORTANT

People need to get along with one another not only in the home, school, and playground, but also on the job. To help your students understand how they get along with others have them complete ACTIVITY PAGE 101. These fifteen questions would be good topics for small group discussion. If any of your students need additional help in any of the areas discussed, perhaps you could arrange for your school counselor to hold individual or group meetings with these students.

Some companies have programs designed specifically to improve interpersonal relationships. If your community has a person employed in such a capacity, invite the person to speak to your class. What types of things do they do to help people get along with one another?

75. GETTING ALONG IS IMPORTANT (Cont'd)

Encourage your students to ask questions. How can your students apply these techniques to improve interpersonal relations at school and at home?

76. LET'S HEAR THE PANEL'S OPINION

Organize male and female students into a panel discussion group to discuss the following topics:

1. Women in men's occupations; men in women's occupations
2. Equal pay for equal jobs
3. Women in supervisory positions over men; men in supervisory positions over women
4. Benefits and/or hardships created by the women's liberation movement

77. TV PERSONALITIES ARE PEOPLE

Have your students select a personality from their favorite TV program. Divide your class into small groups for discussion purposes. Have each person within each small group explain why they chose the person they did, how they feel that person is like them, and how that person is different from them. Have the group discuss whether the TV character's values and ambitions reflect theirs.

STEVIE WONDER!!

78. TONY ORLANDO NEEDS MUSCULAR STRENGTH, GOOD LOOKS?

Using a notebook binder, have your students make an album of photographs and published articles of famous people at work (e.g., athlete, TV star, politician, etc.). Have them place each person in the album according to the occupational family to which he or she belongs. You might make a composite list of job characteristics which the students would then check off as characteristics of that particular famous person. List such characteristics as skills in math, science, etc.; muscular strength, dramatic expression, strong verbal communication skills, etc.

79. EARLY EXPERIENCES INFLUENCE YOUR FUTURE

Have your students study the developmental life experiences of workers in various occupations through biographical materials and interviews. They might want to use the form on ACTIVITY PAGE 103 to collect data. Discuss how early life experiences influence future choices and opportunities.

80. SIGNIFICANT PEOPLE MEAN A LOT

Discuss with your students who the significant people are in their lives. Who do they go to for advice? Who do they go to to share successes? Who do they go to when they are down? Why are these people the ones to which they turn.

81. DO A CASE STUDY

Have your students make a case study of a worker who has a physical disability. Include how the disability occurred, if it happened due to an accident on the job, what the person did to compensate for the disability, and how the disability changed the person's life-style. If this creates an awkward situation for the disabled person, similar information could be obtained from social agencies or insurance companies without knowing the person's name.

82. I HAVE VALUES

Have your students rank the values on ACTIVITY PAGE 105 according to those they feel are most important to them. Have them rank them by number, starting with "1" as the most important, "2" the next, and so forth. Discuss how people's values differ.

Values

83. WORK BRINGS REWARD

Give a short test to the class on something they have recently studied. Take up papers and quickly grade and return half of them. Explain to the others that their papers may be graded next week or next month, but it is doubtful that they will know the results soon. Explain that for them the value of the test should have been simply what they learned from taking it. From their reactions (probably their protests) begin to discuss workers who seldom get a chance to see concrete results from their efforts (teachers, counselors, social workers, clergymen, etc.). Contrast the satisfactions derived by these workers with the satisfactions of the workers whose work results in a tangible, finished product. Have students consider how important concrete evidence of achievement is to them.

Discuss the difference between extrinsic (material, outside) and intrinsic (personal, inner) satisfactions. Students might look at a list of possible work rewards to distinguish between intrinsic and extrinsic rewards or recall examples from their own experience.

Credit - #1

84. I AM INTERESTED IN A SUMMER JOB, SIR!

Many students will be looking for summer jobs. Here is a list of questions you might want to discuss with them. If there are problem areas, you will want to assist them with suggestions:

1. Do you know how to start job hunting?
2. Do you know how to fill out an application form?
3. Did you know you should ask the three or four references you give if you can use their names?
4. Did you know you may be asked to pass a physical examination?
5. Do you know what is included in the job for which you are applying?
6. Do you have the skills needed to sell yourself to the employer?
7. Are you prepared to write a few sentences for your employer telling him or her your reasons for wanting work at his or her place of business?
8. Do you know how to dress for a job interview?
9. Do you know how to answer properly the questions asked at the interview?
10. Do you know how to apply for a social security card?
11. Did you know that your teachers may be asked about the way you worked and behaved while at school?
12. Did you know that first impressions are very important?
13. Are you the kind of person who works well with other people?
14. Did you know that most people lose their jobs because they are not dependable, honest or cooperative?

85. SATURDAY IS A DAY FOR FUN!

Suppose you had all day Saturday to yourself, with nothing you had to do. How would you spend your free time? Would you still spend your time that way if:

1. Someone offered to pay you $15.00 to clean a vacant lot?
2. An elderly neighbor needed someone to grocery shop for him or her?
3. An adult in the neighborhood offered to take you along to watch an interesting kind of work?
4. Someone gave you 40 tomato plants to put out in the garden?
5. One of your parents suggested that someday you need to clean out the attic?
6. Your mother (although she did not really ask you) needed someone to baby sit for your two-year-old brother so she could

85. SATURDAY IS A DAY FOR FUN! (Cont'd)

go to a friend's house?

Is free time more valuable to some people than to others? How can knowing your feelings about free time help you when you make school and career choices?

86. I NEED A JOB, MR. PERSONNEL MANAGER

Role play this situation: Two prospective employees come for an interview with the personnel manager. One applicant has a good attitude and has the skills needed for the job. The other applicant has a few skills and a negative attitude. Have each applicant talk to the personnel manager. Who will the personnel manager hire? Then have the person with few skills have a good attitude and the person with many skills have a negative attitude. Now, what will the personnel manager do?

87. DO YOU NEED TO READ ON YOUR NEW JOB?

Arrange with the high school to have interaction between high school students and junior high students on a one-to-one basis. The junior high students will interview the part-time working high school students concerning this topic: "What skills do you use in your job that you had to learn in school?" Students will tape the interviews. Be sure the class plans procedures and interview questions. Even a "practice-run" would be helpful. Both students are sure to gain much from this interaction.

88. DESCRIBE THAT JOB

Ask your students to create job titles for an occupation of their choice. Develop a job description which also includes alternative jobs requiring similar skills. Discuss companies or places of business which might have a need for the types of jobs which the students developed.

89. CAREERS FOR A DAY

Through planning and previous arrangements, have your students visit someone on the job with whom they can talk. Suggestions should be made ahead of time to the workers as to what the students wish to know. The students might outline their interests and have some questions written as a starting point. Amount of time spent will vary from one occupation to another. Someone who is interested in management will need more time to see a total operation than will someone who is interested in a specific area. Upon completion of their visit have your students write a report of their experiences. Have them include job duties, advantages and disadvantages of the job, and working conditions. Most importantly your students should state their desire to enter that field of work or an alternate choice and why. You might want your students to use the form on ACTIVITY PAGE 103 for interview purposes.

90. TODAY, TOMORROW, OR WHEN?

Have the students divide a page into three columns. Mark the columns with: "Choices I Have Made;" "Short Term Choices in the Future;" and, "Long Range Choices in the Future." Then suggest that they think about choices of all kinds and list at least ten in each column. Class discussion concerning their choices will follow.

91. EDUCATION AND EMPLOYMENT

Hold a panel discussion. Invite: two people who hold college degrees and are working in industry to talk to the class about the usefulness of college degrees for workers in their industry; two people who hold college degrees but are working in jobs which do not require college degrees; two people who did not attend college but who have good paying jobs to discuss how they achieved in their positions, and two people, one man and one women who hold positions which are usually thought to be that of the opposite sex to discuss the benefits and problems of the job. Class discussion following the panel discussion should center around personal satisfaction in a job.

92. A SURVEY OF ATTITUDES

Have the students prepare a questionnaire concerning some facts or attitudes about work (e.g., On the average, how long does a person stay with a job? Why do people change jobs? Is the working week arranged correctly or how should it be changed? Do people think about the service they render while working, or do they work purely for the money? Or the student's choice).

Students will interview at least 20 people, both men and women, from all types of working areas. Results will be compiled in a report and will be presented to the class. Encourage class discussion.

93. THIS QUALITY IS EXTREMELY IMPORTANT

For each of the following common expectations, name five occupations where this quality is extremely important (e.g., Being on time: bus drivers, space craft co-ordinators, air traffic co-ordinators, etc.).

1. Speed
2. Dependability
3. Accuracy
4. Honesty
5. Fast thinking
9. Aggressiveness
10. Strong will character
11. Organizational ability
12. Patience
13. Kindness

93. THIS QUALITY IS EXTREMELY IMPORTANT (Cont'd)

6. Endurance
7. Strength
8. Manual Dexterity
14. Charm
15. Being on time
16. Ability to keep calm while under stress

Have students decide which three of the above qualities are their strongest qualities. They might then decide which jobs they are best suited for which require these qualifications and then determine if they are really interested in those areas.

Endurance

94. DO YOU SING FOR FUN, FOR MONEY, OR BOTH?

Some people have hobbies that are related to their jobs. Someone who works in a library might enjoy reading as a hobby. Or someone who works in a coin and stamp shop may have a private collection. The hobby may have come before the work or the hobby may have come as a result. Discuss the importance of finding an enjoyable work as well as a hobby. Allow the students to discuss other jobs and hobbies which are related. Make a list.

95. STUDENT ASPIRATIONS

Conduct a poll of your students' occupational aspirations. Discuss the results in terms of a "balanced economy," employment trends, and occupational requirements.

96. YOU ARE STEREOTYPING

Have your students research the development of racial prejudice. How does this development compare to attitudes toward the role of women? Compare the prejudices of men and women. You might want to include: employment preference, working wives and mothers, equal pay, etc.

Compare the work roles of both a male and a female doing the same job. Do they differ? If so, how? Interview community workers and employers as to social role expectations of various jobs.

97. SOCIAL ROLES

Study some of the social roles and demands expected of various occupations (e.g., religious work, sales work, teaching, social work, etc.). What does society expect of people in these occupations? Do workers in these fields play the roles expected of them by society?

98. ETHICAL RESPONSIBILITIES

Discuss the differences in ethical responsibilities of: salespersons, physicans, research scientists, newspaper reporters, TV comedians, and artists. Who enforces the ethics of each group? Are there laws for each group?

99. PERSUASIVE PEOPLE

Sometimes people have to be very persuasive in order to do a good job. Have your students list all the occupations they can think of where the worker has to be persuasive in order to survive, (e.g., advertising in the mass media, political campaigns, etc.). What other qualities do persuasive people need?

100. SOME OCCUPATIONS HAVE NICKNAMES

Play a nickname of occupation matching game, (e.g., grease monkey, strawboss, cop, leatherneck, sawbones, birdman, hash slinger, devil dodger, hacker, etc.). Your students will know many more. Discuss possible stereotypes of the occupations implied by the nickname. The Bulletin Board Ideas Section will give you some more ideas.

NICKNAMES!

101. SOCIAL PROBLEMS

Have your students list some of the major social problems of today. What are some occupations that might help alleviate these problems?

102. EFFECTS OF SOCIAL CHANGE

Have your students list some examples of social change in contemporary America (e.g., agrarian to industrial society, extended family to the nuclear family, changing role of women, family mobility, urbanization, rising divorce rate, etc.). In what ways do social changes such as these affect and change lifestyles?

103. SOCIAL AGENCIES PROVIDE ASSISTANCE

Invite a representative of an agency that provides public assistance to the unemployed, the elderly, or the handicapped to speak to the class. Ask the person to discuss:

1. What society does to help those who cannot help themselves.
2. The extent of the ability of social agencies to meet all personal needs (food, clothing, shelter, security, physical care, love, intellectual stimulation, etc.).
3. How young people might help meet social needs.
4. The rewards, pressures, and disappointments of a career in social work.
5. Other kinds of careers that deal with helping people.
6. Preparation and personal characteristics necessary for careers in the helping professions.

Credit - #1

104. SOCIAL SERVICE CAREERS

Social work is a service profession and is part of the American scene today. Service may be to individuals or groups. The social worker is concerned with persons and their problems and is committed to raising living standards in the community. The social worker works through the family, schools, courts, hospitals, and welfare programs. Social studies students should be aware of the variety of jobs available in this field.

There are three categories of social workers:

1. Case workers
2. Group workers
3. Community organization workers

Have six students research an occupation of their choice dealing with social services. Nobody else is to know of their choice. They might choose from among the following:

1. Social workers, general or welfare
2. Probation officers
3. Vocational rehabilitation counselors
4. Recreation
5. Medical social workers
6. Psychiatric social workers

104. SOCIAL SERVICE CAREERS (Cont'd)

Select two teams of four students each to alternate as panel members to play "What's My Line?" Each panel member asks questions until a "no" answer is given. Then the questioning moves to the next, etc. Set a time limit of two to three minutes per job classification.

105. THE ANTHROPOLOGIST AND THE ARCHAEOLOGIST

The anthropologist and the archaeologist help explain the nature of contemporary people and their society by pursuing the past. Discuss how the pursuit of scholarly occupations, such as those of archaeology and anthropology, benefit society?

What kind of work did people of the past have to do in order to obtain food? What kind of work did they have to do to provide shelter for themselves? What kinds of information can be gained from studying the past behavior of people? How can these discoveries sometimes provide insights for solutions to contemporary problems (e.g., ancient medical herb remedies are currently being studied by scientists in an attempt to rediscover lost knowledge)? How can the evolution of previous cultures frequently help to explain phenomenons which happen in modern cultures?

Discuss the educational requirements, salary, employment outlook, advantages and disadvantages, etc. of both careers with your students.

ACTIVITY PAGE

TRAVEL AGENT TERMS

All of the following are terms that are related to the occupation of a travel agent.

1. KSTEICT __________
2. SAVIS __________
3. CUOSNIXERS __________
4. USERTO __________
5. ATCACMODOONSMI __________
6. PSMA __________
7. GABEGAG __________
8. STOREVINSAER __________
9. TREDPERAU __________
10. ORUT __________
11. LAVIRRA __________
12. CDSHELSUE __________
13. IRTP __________
14. NAEPALIR __________
15. ARNIT __________
16. UBS __________
17. THOEL __________
18. RAUATTRESN __________
19. OSERTR __________
20. GLIMEEA __________
21. XPSEENE __________
22. BMETILATE __________
23. TRSSPOAP __________
24. TNESDIOIAN __________
25. NRUTER __________

ACTIVITY PAGE

GEOGRAPHY MATRIX

DIRECTIONS: There are 33 words related to geography in this matrix. The challenge: try to locate and draw a circle around each word - some words are backwards.

O A S I S M O T A F S R E A B T N O T B R M U S O R T
B N R N T S I G O L O E G H R S D M A T U R B A N M I
A T S G H A N O I S O R E T Y I N R T R R F E C A R S
E H F T M O V R B L Z Q S U M G A T X I A C R E B I E
A R T I F A C T D A Y N U S F O S S I L L H I L O R S
D O M O T M O U N T A I N D B L O L E T D D F N T S T
P P N D Q E R I M I L L S B R O T O K A O T O O I C U
U O A E T R O D I T E L N A Z E T O A R C D R N U S A
I L E S I H S U B U R B A N Y A N E L T H T E P A R R
S O G E T V S I A D K D L M D H Y H L I D O S E O O Y
L G D R G E V E R E S T R O S C A M I F A O T N Y N O
E I L T U E O I E R T E O D O R R I V A N T J M R E N
R S E A E N D A R G E D I W Y A I A E C J W I J K L B
N T A W N E E S E Z P V R Y H S R W I R E F U T F E X
M A D A D I R I I T P E A U P D I T C C N L Q R L F Z
R E V I R E S D C E E S O R N W S P O L L U T I O N B
D F R A B I S J A E D L P U E I E L N I U P I T O O A
C L A R C P B N L C S B T G G U I L A E K P C U D R W
G L A C I O L O G I S T D O H C T U C I N R A S W T R
T A P N O O P D T M D B L V I E H Q L O N G I T U D E
U W Y E C U L T U R E O I M E K T N O D C I J U N C C
D E L T A D L N O I O O O M G Y I T V S I Z D A S D O
N H I F N H E A Y Z T Y Z T E M N V O M N E C O T Y L
Q M K O Y A Q D R W X W Y E O M D N L F D I G O F O O
S D S O O U K R T T J V U T I N C O C G N A H R G R G
V R R W N N C P U S V S P I O H I L R E U V E O A O Y

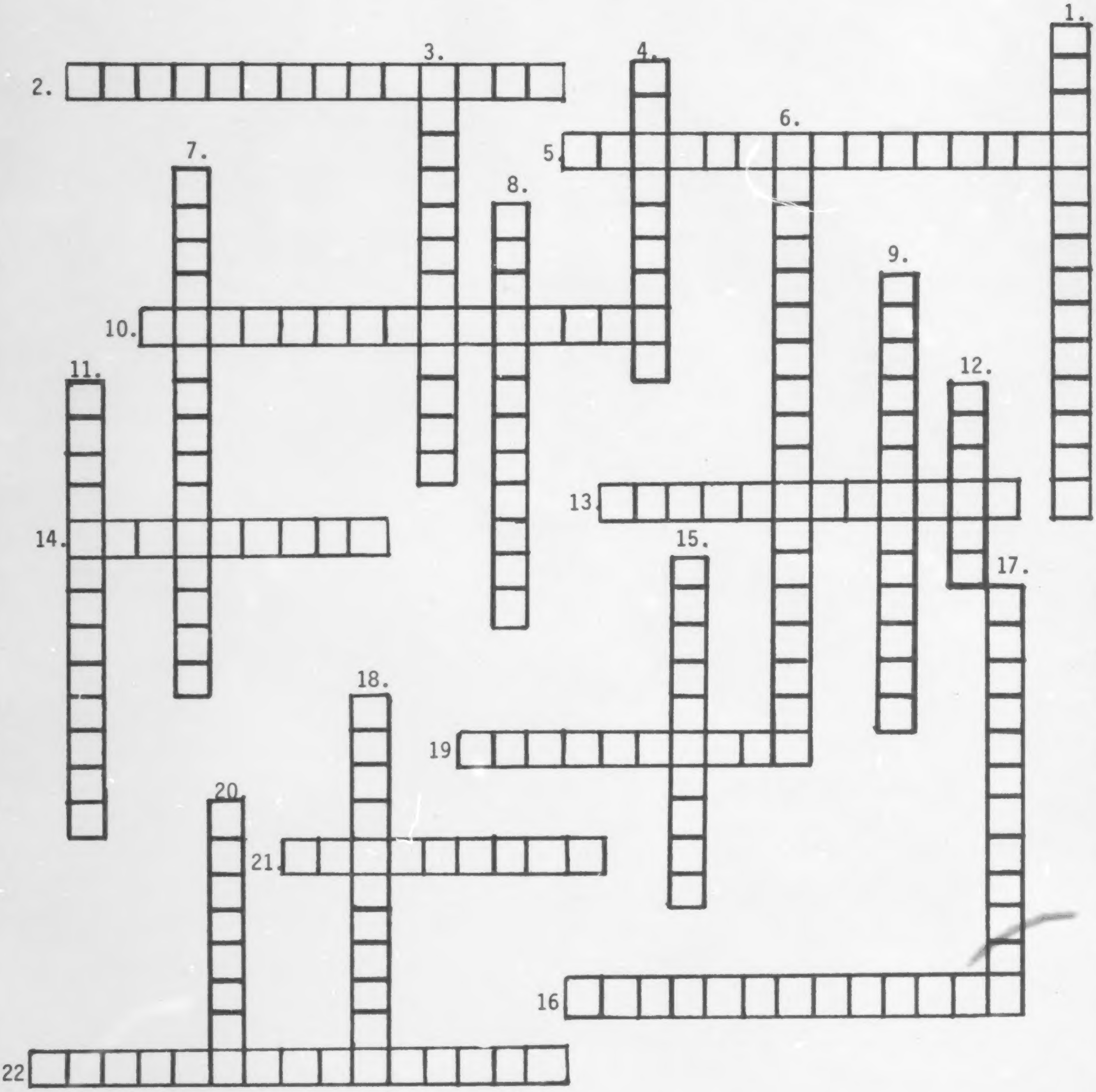
ACRE
ANTHROPOLOGIST
ARCHAEOLOGIST
ARTIFACT
CANYON
CULTURE
DELTA
DESERT
ECOLOGY
EROSION
ESTUARY

EVEREST
FLOOD
FOREST
FOSSIL
GEOLOGIST
GHETTO
GLACIER
GLACIOLOGIST
LATITUDE
LONGITUDE
MOUNTAIN

OASIS
POLLUTION
RIVER
RURAL
STEPPE
SUBURBAN
TUNDRA
URBAN
VILLA
VOLCANO
ZOOLOGIST

ACTIVITY PAGE

CAREERS IN GEOGRAPHY
Crossword Puzzle (See Next Page)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ACTIVITY PAGE

CAREERS IN GEOGRAPHY
(Crossword Puzzle)

DOWN

1. Uses aerial photographs to study geographical land forms.
3. Studies geographical features of the earth utilizing principles of physics.
4. Studies composition, structure, and history of the earth's crust.
6. Concerned with the physical aspects of the geographical features of the earth.
7. Usually the leader of the foreign policy of a country.
8. Studies the effects of glaciation on the earth's crust.
9. Studies strata and sedimentation of the earth's crust.
11. Studies geographical aspects of the ocean's floor.
12. Trouble shooter in a foreign embassy.
15. Studies nature and use of areas of the earth's surface.
17. Studies the effects of earthquakes on the earth's crust.
18. Studies distribution of water over the earth's crust.
20. Surveys and measures the contour of the earth's crust.

ACROSS

2. Studies fossilized remains of plants and animals in the earth's crust.
5. Studies the forces (erosion, glaciation, sedimentation) that cause change in the earth's crust.
10. Those people who work with foreign relations for the government.
13. Examines, analyzes and classifies minerals, gems, and precious stones of the earth's crust.
14. Works in the area of transportation to determine direction and course.
16. Studies occurrence, origin and activity of volcanoes.
19. A person sent from one country to another to be a leader of diplomatic relations between the two.
21. A type of geophysicist who employs specialized engineering instruments to locate points on the earth for map making.
22. A member of the diplomatic corps who works on understanding and working with the cultural differences of a country.

WORD KEY

AMBASSADOR
CONSUL
CULTURAL ATTACHE
DIPLOMATIC CORPS
FOREIGN MINISTER
GEODESIST
GEOGRAPHER
GEOLOGIST
GEOMORPHOLOGIST
GEOPHYSICIST
GLACIOLOGIST
HYDROLOGIST
MINEROLOGIST
NAVIGATOR
OCEANOGRAPHER
PALEONTOLOGIST
PHOTOGEOLOGIST
PHYSICAL GEOGRAPHER
SEISMOLOGIST
STRATIGRAPHER
SURVEYOR
VOLCANOLOGIST

SOCIAL STUDIES
SPRINGBOARD NO. 10

ACTIVITY PAGE

STUDENT WORK EXPERIENCE APPLICATION

Name ______________________________ Date ______________
Last First

Address ______________________ Tel. No. ______________

______________________ Social Security No. ______________
Zip

Present Grade ________ Present Homeroom ______________

Position Desired ______________________________

Date of Birth __________ Height __________ Weight __________

Condition of Health ______________________________

Work Experience (list) ______________________________

____

____

What qualifications do you have which would enable you to do a good job? ___

____

____

When will you be available for an interview? ______________

Why should we hire you? Why would you do a better job than someone else? ___

____

____

Give at least two references under whom you have worked, who have personal knowledge of your character, experience and scholarship.

NAME	ADDRESS	OFFICIAL POSITION
1.		
2.		

Additional Comments ______________________________

____

Study Hall Availability: Please check the times you would be available to work.

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:30-9:30					
9:30-10:30					
10:30-11:30					
11:30-12:30					
12:30-1:30					
1:30-2:30					
2:30-3:30					

ACTIVITY PAGE

THE INTERVIEW

I = The Interviewer
M = The Person Being Interviewed
S = The Secretary

M: (Walks into the office and goes over to the secretary's desk.)

M: Good morning, I'm_______________. I have an appointment for an interview with Ms. Carroll at 10:45.

S: Yes, Ms. Carroll is expecting you. Please fill out this application form while you are waiting.

M: Yes, thank you.

S: You may sit over there at the desk, if you like.

M: (Walks over to the desk and sits down; fills out the application.)

I: (Over intercom) Has Mr./Ms.__________________arrived?

S: Yes, he/she is here.

I: Will you send him/her in please?

S: Mr./Ms.____________, Ms. Carroll will see you now.

M: (Walks into Ms. Carroll's office and Ms. Carroll walks around the desk.)

M: (Walks over to meet Ms. Carroll.) Good morning, Ms. Carroll. I'm Mr./Ms.______________. (They shake hands.)

I: Why would you like this job?

M: I have always enjoyed working outdoors and I've wanted to learn more about farming for a long time.

I: What kind of school record do you have?

M: I haven't finished high school, but I intend to. My attendance record is probably about average.

I: How have you done in school this far?

M: So far, my grades are about average, but I have done much better than that is physical education and in shop classes.

I: Have you had any experience in this type of work before?

M: I have never worked on a farm, but I helped raise a garden one summer.

THE INTERVIEW (Cont'd)

I: What do you do with your spare time?

M: I like to work on motors. Right now I'm rebuilding my neighbor's lawn mower so that I can earn extra money in my spare time.

I: Why do you want to work here?

M: This farm is close to my home so I won't have any trouble getting here. I think that I would enjoy working on a farm and this looked like a nice place.

I: What skills do you have?

M: Well, the reason I usually got good grades in gym is because I'm pretty strong. I noticed that you had some beets growing and I can tell the difference between beets and other plants and weeds you may not want in your field.

I: Why did you leave your last job?

M: This is the first regular job I've ever tried to get.

I: Do you think that you can do a good job at this type of work?

M: I'm sure I could do a good job. I know I would be tired after the first couple of days, but after I got used to it, I shouldn't have any trouble keeping up with the other people.

I: I think that you will do quite well. Can you be here tomorrow morning at seven o'clock ready to go to work?

M: Yes, I can.

I: Then I'll expect you in the morning. Report here and I'll introduce you to your supervisor. Don't forget to pack a lunch. The workers usually come in here to eat.

M: Thank you very much, Ms. Carroll. Good-bye.

I: Good-bye, Mr./Ms.___________________________.

ACTIVITY PAGE

LARRY JONES

L = Larry Jones MJ = Mrs. Jones, his mother
MM = Mr. McCool, the employer MS = Miss Shore, Mr. McCool's secretary

The alarm rings: ten o'clock

MJ: Larry, Larry get up! (Larry yawns, rolls over. His face is dark with a day's growth of beard. He falls back to sleep.)

One hour later:

MJ: Larry, will you get up? It's eleven o'clock!

(Larry jumps out of bed.)

L: Ma, why didn't you call me sooner? I have a job interview today.

MJ: I did call you, Larry, but you didn't get up.

L: Darn, no clean shirts. I'll have to wear the one I wore yesterday.

Twelve o'clock:

(Larry enters the office of Cool McCool's park service. His hair is rumpled. He still needs a shave. He walks with a shuffling step, shoulders bent and head shaking as if to the latest down beat of a Barry Manilow tune.)

MS: May I help you?

L: Ye, Babe. Where kin I fin McCoolie to swap words?

MS: Do you have an appointment with Mr. McCool?

(Larry brushes the hair out of his eyes and shifts his weight from one foot to the other.)

L: Sure enuf did, Babe.

MS: Could I have your name, please?

L: Larry, Babe.

MS: (Pauses for a moment, waiting for Larry to give his last name. It becomes apparent that he won't give it.) And your last name?

L: (Frowns, then smiles as if the secretary has just asked him for a date.) JONES...Want my hot line number, too?

LARRY JONES (Cont'd)

MS: If you will sit down for a moment, I'll tell Mr. McCool that you're here.

(Larry bobs his head up and down and frugs his way over to a chair. He flops in the chair letting his feet slide out in front of hime. He begins to hum a Bob Dylan song.)

MM: Good afternoon, Mr. Jones. I'm Mr. McCool.

L: (Waves his hand.) Hi, My Man!

MM: Will you come into my office please?

L: Sure, Sam. Slip and slide, I'll step inside.

(Mr. McCool stops for a moment and then walks into his office. Larry follows with his usual shuffle step.)

MM: Mr. Jones, will you please have a seat?

L: Thanks, Pop. (He flops into the chair.)

MM: Now then, Mr. Jones. I understand that you would like to work in one of our parks.

L: Right Dad, the bright sunlight, the great outdoors. That's where I'll do my labors.

MM: Very interesting. Have you finished high school?

L: Sure Man. Up to the age of six and ten. Then I split like brother Ben. Up to eight, that's where I went. Man my mind was really bent. Now I'm free, ta work, ta live. No more teachers, just jive, jive, jive.

MM: Well, Mr. Jones, I have all the information I need. I'll have my secretary call you if we have an opening for you.

L: Like, thank ya, Man. I'll take my bow. And drag through now. Stay in the groove. Move, Man, Move.

MM: Good-bye, Mr. Jones.

(Larry shuffles out, humming a Dylan tune.)

WOULD YOU HIRE LARRY JONES? HOW WOULD YOU ACT DURING AN INTERVIEW?

SOCIAL STUDIES
SPRINGBOARD NO. 62(b)

Credit - # 7

ACTIVITY PAGE

ABOUT MYSELF

For each statement put a check in one of the columns.

	Never	Sometimes	Usually	Always
I like to be the center of attention.				
People don't understand me.				
I can overcome discouragement.				
I control my temper.				
I make excuses for my mistakes.				
I am polite to everybody.				
It hurts my feelings to be criticized.				
I get along better with people who are older than I am.				
I like to hear the opinions other people have.				
I stand up for what I think is right.				
I like to be by myself more than I like to be with people.				
I like to play jokes on people.				
I like for people to trust me.				
When anyone gives me a job to do, I try to do it the best I know how.				
I finish what I start to do.				
I like to be with lots of people.				
I am careful not to hurt anyone's feelings.				
I talk about others.				
I try but I never seem to succeed.				
I can laugh at my own mistakes.				
I like to help others.				
I like to hurry through with anything I do.				

ACTIVITY PAGE

PERSONALITY INVENTORY

	YES	NO
1. MANNER		
Are you grouchy?	___	___
Are you indifferent?	___	___
Are you half-heartedly polite?	___	___
Are you usually gracious?	___	___
Are you always gracious?	___	___
2. FRIENDLINESS		
Do you like people?	___	___
Are you too critical of them?	___	___
Are you friendly?	___	___
3. COURTESY		
Are you courteous with your fellow classmates?	___	___
Do you treat others as if they were guests in your home?	___	___
Do you listen attentively to what others tell you?	___	___
4. HONESTY		
Are you prompt in paying your debts?	___	___
Do you waste your time?	___	___
Do you take anything which doesn't belong to you?	___	___
5. ADAPTABILITY		
Can you take criticism fairly well?	___	___
Are you able to treat different kinds of people in different ways?	___	___
Do you like to meet people?	___	___

PERSONALITY INVENTORY

	YES	NO
6. FORCEFULNESS		
Do you talk with conviction?	___	___
Is your voice distinct?	___	___
Are you energetic in your actions?	___	___
7. INDUSTRY		
Do you work as hard when your teachers are away as when they are around?	___	___
Do you like to keep caught up in your work?	___	___
8. COOPERATIVE SPIRIT		
Are you glad to work with others and give unfailing cooperation?	___	___
Are you usually willing to cooperate?	___	___
9. MEMORY		
Do you have a good memory for faces?	___	___
Do you have a good memory for mathematical figures?	___	___
Do you have a good memory for names?	___	___
Do you get statements twisted in your mind?	___	___
10. TACT		
Do you irritate people by what you say and do?	___	___
Do you say the wrong thing at the wrong time?	___	___
11. PATIENCE		
Do you lose your temper quickly?	___	___
Do you antagonize others by your irritations?	___	___

SOCIAL STUDIES
SPRINGBOARD NO. 66 Credit - #2

ACTIVITY PAGE

HOW DO YOU GET ALONG WITH OTHERS?

	YES	NO	SOMETIMES
1. Do I get along quite well with most people?			
2. Do I like most of the people I know?			
3. Do most people seem to like me?			
4. Am I always worried about what another person is thinking of me?			
5. Am I interested in listening to the other fellow, rather than just waiting for him to stop talking and listen to me?			
6. Do I always insist on my own way, never changing my ideas to fit in with the others?			
7. Do I often act silly just so people will pay attention to me?			
8. Do I often make up excuses, instead of giving the real reasons for something?			
9. Do I spend much time moping because of something I don't have, like a big allowance or a pretty face or lots of clothes?			
10. When we're making plans, do I think only about myself and never consider other people?			
11. Do I do my share in thinking up ideas and in doing jobs that need to be done?			
12. Am I afraid to meet a new person--even if it's someone my own age?			
13. Do I feel lonely and wish I had more friends?			
14. Do I feel miserable because other people don't appreciate me?			
15. Am I a good sport, even when things don't go my way?			

Credit - #2

ACTIVITY PAGE

JOB INTERVIEW

Choose a job you are interested in and interview someone in that job.

I. Ask the following questions

1. What is the name of your job? ____________________
2. Do you like your job? ____yes ____no
   a. What things do you like about your job?
   ____
   ____
   b. What things do you dislike about your job?
   ____
   ____
3. How long have you worked on this job? ____________________
4. Did you work on another job before? ____ yes ____no
5. If yes, why did you change? ____________________
   ____
6. Do you recommend this job to a high school student looking for a career? ____yes ____no
   Why?____________________
   ____
7. If you were in Junior High School today, what would you do differently than when you were in school? ____________________
   ____
8. What school subjects were important to your job?
   ________, ________, ________, and ________
9. What outside activities helped you prepare for your job?
   ____

II. Answer these questions yourself. (Student)

1. Do you still want to be in this type of job? ____yes ____no
2. Has your idea of this job changed? ____ yes ____no
   If yes how?____________________
   ____
3. What steps should you take to prepare yourself for this job?
   ____
   ____

Credit - #2

ACTIVITY PAGE

Rank the following values according to those you feel are most important to you. Start with Number "1" as the most important, "2" the next, and so on. Number "24" will be the least important.

_____ 1. Enough monetary income to live a comfortable life

_____ 2. Satisfying and rewarding work

_____ 3. An exciting life

_____ 4. Good family relationships

_____ 5. Freedom to do what I want when I want

_____ 6. Pleasure

_____ 7. A strong religious faith

_____ 8. Self-respect

_____ 9. A sense of accomplishment

____ 10. Social recognition

____ 11. Wisdom

____ 12. Financial security

____ 13. International fame

____ 14. Lovely home in a beautiful setting

____ 15. Self-knowledge

____ 16. Self-confidence

____ 17. Ability or position to influence world affairs

____ 18. Satisfying, happy marriage

____ 19. Stimulate and/or influence the minds of others

____ 20. Love-understanding-respect of friends

____ 21. Love-understanding-respect of family

____ 22. Make the world a better place-help others

____ 23. Knowing what to expect from the job each day

____ 24. An eventful life full of decision-making and unexpected events

LANGUAGE ARTS
SPRINGBOARDS

UNDERSTANDING LITERATURE

1. MR. JOHNSON MAY HAVE BEEN AN INSURANCE AGENT

As you read pieces of literature or discuss content and characters, and if the information is not given, encourage the students to decide what occupations the characters might have held. Values can also be discussed in relation to how each character feels about himself or herself. Make use of such opportunities to emphasize qualifications and training needed by people in various avenues in the working world. Be sure students think about atypical as well as typical jobs for both male and females.

2. I THINK BO BOBBINS BECAME MAYOR WHEN SHE GREW UP

Read a story and ask the students to place the major events in sequential order. Specify how many events they are to include to prevent itemizing too much or too little. Then ask them to continue the time line beyond the story by indicating events which may have happened after the story ended. After the students have thought out their projections, let them share and discuss the value ramifications. They may even want to write the "second ending" to the story.

3. WOULD JOHNNY APPLESEED HAVE BEEN A BLACKSMITH?

Choose some fictional characters and write job descriptions for each (e.g., John Henry, John Appleseed, Lil Abner, Don Quixote, Lady Godiva, etc.); or, suggest that your students watch a particular movie on T V. Choose three characters and try to define their character traits as well as their lifestyles. Again you might write job descriptions for them.

4. WHAT QUALITIES DID F.D.R. HAVE AS A PRESIDENT?

Have students study biographies of people who have used their talents to achieve success and self-realization.

5. THREE WORK POEMS

Give each student a copy of ACTIVITY PAGE 137. Write these questions on the board to serve as study guides and points to be discussed.

WORK by Henry Van Dyke

1. In one sentence summarize the theme of this selection. (Whatever work I do, let me be happy and grateful in doing a good job.)
2. What line tells how a worker should respond when outside forces try to lure the worker away from work? (This is my work; my blessing, not my doom.)

A CREED

1. What is the author trying to tell us? (All are partners in this world; no one can live alone.)
2. In what way does this poem relate to career awareness? (There must be cooperation and tolerance as humans interact.)

TWO AT A FIRESIDE

1. What is the meaning of the poem? (Helping a friend brings a warmth to the spirit.)
2. How does this poem relate to career awareness? (It's not only the monetary reward we seek in employment but the satisfaction working brings.)

5. THREE WORK POEMS (Cont'd)

As an added activity have each student bring a poem to class that they think relates to work, or attitudes regarding work. Have them each explain what the words mean to them. Discuss.

CREATIVE DRAMATICS

6. GET DOGGIE TREATS AT YOUR GROCERS TODAY

Have students compose and act out a 30 second TV commercial about a job. Have the audience critique it. Keep in mind fair, effective advertising.

7. EMOTIONS ARE AN ACTOR'S TOOLS

You are a movie actor or actress. You have a chance at playing a wonderful part, but you must show the director how well you can act. The director may choose words from the list below or make up some of his or her own to be acted out.

1. Afraid
2. Angry
3. Ashamed
4. Disappointed
5. Happy
6. Lonesome
7. Sad
8. Shy
9. Silly
10. Sorry

8. NOW WHICH APPLICANT WOULD YOU HIRE?

Plan this activity in conjunction with an industry or several industries in your area. Obtain actual application blanks from the companies. Ask students to choose a company and apply for a specific job--typist to manager. Ask personnel managers from the companies to come to your classroom to conduct interviews with the students applying to their companies. Impress upon the students to act as if this were an actual interview. Have each interview conducted before the rest of the class. After all the interviews are completed, ask the personnel manager to tell which students they would have hired and why. What qualities does an interviewer look for when interviewing? Ask the interviewer what skills a student can learn in school to help them through an interview.

Job Applicant

9. LOOKING AT POST SECONDARY REQUIREMENTS

Have students write to post secondary schools for entry requirements and course offerings. Prepare brochures and posters for the school library to inform students of courses offered by their own high school that would meet these requirements.

10. WORK SITUATIONS CONTRASTED

Have the students dramatize the following work situations using ineffective communication techniques. Then in contrast, have them illustrate an effective way to communicate.

1. The boss calls you to come to work on your day off.
2. You are told to pick up the mail in 75 offices, which is not your job to do.
3. The boss tells you again that you have too many errors in your typing.
4. You are told to set up a sound system which you have not learned how to do.
5. You are accused of breaking a tool which you did not do.
6. You must miss work on Monday to see an eye specialist and you are afraid your boss will not like for you to go.
7. A co-worker talks to you all the time so that you cannot get the work done that you are expected to do.

10. WORK SITUATIONS (Cont'd)

8. A co-worker "cuts you down" all the time.
9. An employer spends too much time explaining things to you that you already understand completely.
10. You want to ask the boss for a raise.

Have the students think of other work situations which need tact and a good choice of words to communicate an idea effectively.

11. THE SKIT NEEDS A MANAGER

Have groups of students write and dramatize skits for various work settings such as:

1. An assembly line
2. A sales conference
3. A hospital ward
4. A construction site
5. A small bank
6. An airport terminal
7. The post office
8. A grocery store

What are the talents and skills which seem necessary to carry out the various roles? How is each job dependent upon the others? Does each job require equal time and talent to complete? What salary do you think each worker should get?

As the skit is being dramatized, another group might make a flow chart with arrows pointing toward the next step to show how one worker is dependent upon another.

AIRPORT TERMINAL

SPEAKING

12. WHEN I GET OLDER I WANT TO BE JUST LIKE THAT

Have the students bring a picture of, or an article about the person they most admire. Have them each tell what qualities and strengths they admire in the person of their choice. They might then decide if they have those same qualities now, are working on gaining them, or never think they will ever have them.

Or they might select a favorite TV personality. Tell why they selected that person as a favorite and how they are alike and different from him or her. Does that person's values and ambitions reflect theirs?

13. INTERVIEWING TO LEARN ABOUT JOBS

To strengthen interview skills, have your students interview any three workers they know using ACTIVITY PAGE 139 as a basis for their questions. You may want to extend the lesson by having them write an article that is suitable for publication about each worker. Combine all the students' work into an alphabetical "Directory of Workers," duplicate, and distribute to members of the class. Encourage creativeness in writing and illustrating.

14. WATCH ME, AND I WILL TELL YOU

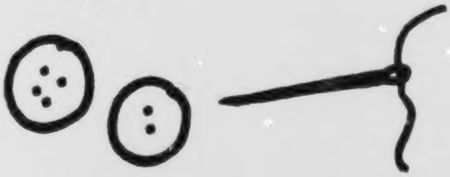
Without speaking to them, gesture to two students to come to the front of the room. After they have arrived there, ask them how they knew they were to come to the front. Explain that even this inaudible gesturing is a form of communication. People must learn to communicate in order to give or take directions. Discuss occupations that deal directly with giving or taking directions such as:

1. A police officer directing traffic
2. A dentist giving directions for brushing teeth
3. An orchestra conductor directing the orchestra

14. WATCH ME, I WILL TELL YOU (Cont'd)

Have the students choose an occupation and give a demonstration speech of something that that person does. Suggestions:

1. Be a cook and follow a recipe.
2. Be an entertainer and explain ventriloquism.
3. Be a carpenter and assemble a bird house.
4. Be a tailor and sew on a button.
5. Be a scientist and conduct an experiment.
6. Be a physical education teacher and explain the rules of a game.
7. Be a hostess and set the table correctly.



15. THIS IS WBJH ON THE AIR

Discuss communication through the radio. What services does the radio station provide (informs people of local, state, national and international events; entertains; helps businesses sell products and services; gives information and instruction in case of a disaster). Listen to radio programs, visit a radio station and discuss skills needed by radio personnel, (e.g., clear diction, correct grammar, good timing, clearness of meaning.). Visit the radio station to observe the equipment needed, workers involved, and physical arrangement. Ask for copies of some wire service sheets.

When you return to the classroom you might want to continue with the following:

1. Think of all the types of material used at the radio station. (e.g., news, weather, sports, traffic reports, station announcements, music introductions, community notices, advertisements, etc.).
2. Write scripts for each of these program parts.
3. Form a program schedule using these scripts.
4. Hold auditions for each of the program parts. Discuss qualities needed for each position. You will need announcers, engineers, and a radio station director.
5. Set up your radio station. You will need: 2 turntables, 1 microphone, 2 tape recorders, scripts and records.
6. After selections have been made for the positions, time should be allowed for class members to practice scripts and make engineering arrangements.
7. Record the "broadcast" and then play it back for the class to hear.
8. Discuss the broadcast, advantages and disadvantages of careers

15. THIS WBJH ON THE AIR (Cont'd)

in radio, and the students' feelings about such careers.

9. Decide what subject matter skills are needed in radio broadcasting occupations.

16. LET'S VIDEO TAPE THE METEOROLOGIST AT WORK

Take video equipment on location where the main thing to be learned is an activity rather than someone giving oral information only. It is used best when there is a skill to be demonstrated, such as interviewing and observing a golf pro, a baker, a pizza maker, etc.

17. CAREERS PASSWORD

Play this game like the traditional Password Game. Use various occupations as the password and give clues pertaining to the occupations.

PASSWORD

18. I NEVER KNOW WHAT TO SAY

Role play various job-related activities emphasizing correct grammar, enunciation, choice of words, what to say, appropriate way to answer questions, etc.

Some situations might include:

1. Asking for employment
2. Interviewing for a job
3. Disagreeing with the boss
4. Disagreeing with associate worker
5. Accepting criticism
6. Terminating employment

18. I NEVER KNOW WHAT TO SAY (Cont'd)

7. Being falsely accused
8. Being unsure of directions given
9. Making a phone contact for the boss
10. Asking for a raise
11. Illustrating strong commitments to a task
12. Showing weak commitments to a task

19. MY HAND COVERED THE MARK FIRST!

The students should formulate job descriptions using the following TV show idea. Each student will write seven descriptive phrases for a particular job, putting the least obvious description first, and so on. The first phrases given should be difficult in order not to be guessed the first time. Two class members are contestants and one is the game show host. Make a mark on the middle of the table between the two players. The game show host (person who writes the phrases) will read the job description phrases one at a time and pause between each phrase. When a contestant believes he or she knows the occupation, the contestant's hand is placed on the mark. The first contestant to cover the mark is allowed one guess as to what job was described. If right, the contestant wins and stays to be challenged by another contestant and another game show host with another set of job description phrases. If the contestant is wrong, the opposing player may hear the rest of the descriptions. If that person can identify the worker, he or she may challenge another player.

20. HURRY OUT AND BUY THIS BACK SCRATCHER TODAY!

Divide into groups of four students each. Each group will decide upon a real or imaginary product or service to sell and will devise an advertising campaign around the product. They will make posters, write letters, and any other forms of communication they can think of to sell the product or service. Discuss persuasive, descriptive, and informative language styles and techniques. Is it more effective to use visuals to persuade? To describe? To inform? Why do certain persuasive techniques appeal to some audiences and not to others? How important are ages and interests of those being influenced to buy?

21. FOUR METHODS OF RESEARCH

Students are to think of a job they are interested in but do not know much about. They are to prepare an informative speech using at least two types of media in their presentations. They must use at least 3 out of 4 of the following methods of research:

1. The library
2. A telephone interview
3. An on-the-job interview
4. A letter questionnaire

Students will want to find out:

1. Job descriptions
2. Job qualifications
3. Job requirements
4. The attractive and unattractive features of the job
5. First year salary; salary after 5 years, after 20 years
6. The outlook for the job 10 years from now
7. The current demand
8. Retirement benefits

Allow time for questions and discussion following each presentation.

22. LISTEN FOR CORRECT GRAMMAR USAGE

Assign your students to listen/watch different news programs. Have them listen for grammatical errors made by the newscasters. Have students report the errors and explain how the statements should have been made by the newscaster. Discuss why correctness of speech is important. What other types of speaking errors do people in broadcasting make?

OOPS! THAT WAS A MISTAKE!!

WRITTEN COMPOSITION

23. WHAT A GOOD (DUMB) THING TO DO!

Have the students write a short story about a decision they had to make which involved several different conditions. Have them tell why they made the decisions, and whether they made the right choices.

24. MY OWN VERSION OF A WELL KNOWN PHRASE

Have your students be TV commercial writers. They may use one of the starters below or one of their own to develop a one-minute commercial for a product of their choosing. Stress using correct grammar, a variety of words, and clear communication.

1. Wouldn'tyou really rather have ....
2. Mother, please, I'd rather do it myself ....
3. Our school is bullish on ....
4. Own a piece of the ....
5. Let me make this perfectly clear ....
6. Ask any mermaid you happen to see ....
7. Come on people, now smile on your ....
8. Is there anyone else in the whole human race with ....
9. Don't you wish everybody ....
10. You only go round once in life so ....
11. When you .... you've said a lot of things nobody else would say.

You may want to record the commercials and form groups to critique them; or you may have the students write out the commercials in correct grammatical form. Why is it important that radio and TV writers and announcers have good language arts skills?

I'd buy that!

25. I FEEL "UP" AND I FEEL "DOWN" WHEN ....

Students are to write a composition describing and comparing their own high feelings and low feelings and their causes. Discuss how "down" feelings often are a hindering factor in achievement. Then break

25. I FEEL "UP" AND I FEEL "DOWN" WHEN .... (Cont'd)

into groups to discuss each composition regarding how "down" feelings should be handled to keep them from showing obtrusively. Each group should think of 20 jobs where it is very important not to let one's "down" feelings become obvious.

26. FILLING OUT A JOB APPLICATION FORM

Many of your students will soon be applying for part-time or summer jobs. Help them be ready by doing a unit on filling out forms. You may want to get the real forms to assist them in applying for a social security number, if they do not already have one, filling out W-4 and W-4E forms, filling out and figuring time cards, and filling out an application form. A sample application form is supplied on ACTIVITY PAGES 141 and 143. You may want to get a number of other application forms to illustrate how difficult understanding application forms can be. Stress how neatness and completeness are necessary when filling out the forms since this application is often the prospective employee's first contact with the employer.

27. LETTER WRITING

Instead of having your students write ordinary friendly or business letters, have them write to famous people. They ought to choose about 3 different persons in order to be sure to get returns. Have them ask the "well knowns" about their jobs--what they like and dislike? What did they learn in school that helped them? Make a carbon copy of each of the letters sent. Make a bulletin board of returned letters from the celebrities.

Dear Farrah,

28. CAREER-O-GRAMS

Compose job descriptions in the following way:

1. Please
   Obey
   Laws
   In the
   Constitution; it's for
   Everybody

2. Paramedics
   Are
   Rescue people
   Attending to
   Medical
   Emergencies every
   Day and night.
   If you
   Can help, call.

3. Career education
   Alerts us to
   Realistic,
   Educated,
   Enthusiastic,
   Responsible choices for
   Successful living.

4. Nursing is
   Understanding, taking
   Responsibility,
   Serving, and helping others
   In
   Need of
   Good care.

5. Veterinarians are
   Experienced in
   Today's
   Emergencies;
   Responsible
   In helping to care for the
   Needs of
   Animals and
   Recognized as
   Important persons in
   All
   Nations.

Credit - #16

Career-O-Grams

29. RESEARCHING JOBS

When teaching research skills, use careers as a basis for conducting your research. Teach library skills, interviewing skills, and business letter writing, relating them all to careers. At the library look for films, tapes, books, and pictures of the workers to be researched. People are a valuable resource for such a research project. You may work individually, but if you decide to work in groups, stress cooperation, planning, and accepting responsibility for carrying on the work of the group. Students need help in learning how to take notes, and organizing materials. Listening skills should be stressed, especially in interviewing. Students soon learn it is terribly embarassing to be told that they had already answered the same question. Field trips can be conducted during or outside of classroom time. Take pictures or slides of workers. Making interview tapes, as well as script tapes to go along with interviews, are fun and thrilling activities for the students. Such activities provide experience in interviewing, composition, and organization. Each student must make a personal response to the career researched. This takes the form of an evaluation paragraph. Groups then compile information gained in various job clusters and put the material together in a form usable by another group which is presented for the rest of the class, other classes, and even a parents' night program.

Credit - #16

Research

30. CAREER INFORMATION LETTERS

Write letters to companies or organizations asking them for career information. Each student should write at least two letters, preferrably more, asking for pamphlets and materials related to that student's interest areas. Have a classroom file where all these materials may be stored. Stress correctness, neatness, and clarity in the letter writing process. Some suggested addresses are found on ACTIVITY PAGE 145. You may obtain other addresses from the OCCUPATIONAL OUTLOOK HANDBOOK.

31. MY PHILOSOPHY OF LIFE

Listed below are two anonymous rhymes. Carl Sandburg also has many suitable poems which would help students begin thinking about the working world. Have the students choose one of these or one of their own and write their philosophy of life, agreeing or disagreeing with the rhyme. Help your students to begin thinking about themselves and their career possibilities for the future.

BE THE BEST OF WHATEVER YOU ARE

If you can't be a pine on the top of
  the hill,
Be a scrub in the valley -- but be
  the best little scrub at the side of
  the rill;
Be a bush if you can't be a tree.

We can't all be captains, we've got
  to be crew,
There's something for all of us here;
There's big work to do, and there's
  lesser to do,
And the task we must do is the near.

If you can't be a highway, then
  just be a trail,
If you can't be the sun, be a star;
It isn't by size that you win or you
  fail--
Be the best of whatever you are.
-anonymous.

FINDING A WAY

If you come to a place where you can't get THROUGH
Or OVER or UNDER, the thing to do
Is to find a way ROUND the impassable wall,
Not say you'd go YOUR way or not at all.

You can always get to the place you're going,
If you'll set your sails as the wind is blowing;
If the mountains are high, go round the valley;
If the streets are blocked, go up some alley,

If the parlor car's filled, don't scorn a freight;
If the front door's closed, go through the side gate.
To reach your goal this advice is sound:
If you can't go over or under, go ROUND!
- author unknown

31. MY PHILOSOPHY OF LIFE (Cont'd)

Have your students suggest songs whose lyrics reflect a philosophy of life such as: "Blowin' in the Wind," "I'd Rather be a Hammer, than a Nail," "Climb Every Mountain," etc. Discuss the meanings of the words.

32. SHAKESPEARE TODAY AND NOW

Have your students write a modern day sequel to Romeo and Juliet, trying to include today's teenage problems. Devise a list of all the workers involved in the writing and production of the play. Allow students to choose an occupation which might interest them in the theatrical field. Now produce the play. Follow-up the production with an evaluation of individual roles and discuss the possibilities of pursuing careers in these fields. Compare volunteer theatrics to professional.

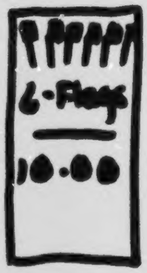
33. ALL THAT WRITING IN ONE OFFICE

Have each student select a specific occupation (a relative's, or friend's place of business would be ideal). The student should visit the place of business several times to determine the amount and kind of reading and writing skills workers need. If possible, collect samples of writing made by workers. Make a display of the various types of communications from each business. Allow time for each student to explain for what reason several of the specific samples were used. Catalogs, order forms, bills, business letters, memos, reports, budgets, trends, among many others will be discovered. How important is it that writing skills be good? What happens when a business sends out a sloppy business letter? Who is blamed - the business or the secretary?

34. DO YOU HAVE TOUR INFORMATION ON PIKES PEAK?

Establish a bureau of tourism for your school and community. Have the students collect materials by writing to each state department of tourism for information about that state. They may also write to the Chamber of Commerce in the larger cities for free pamphlets and literature. Set up a file system for the information. Advertise your free service through posters and flyers sent home with the other students in the school. Check out these materials to anyone interested.

After studying the information you receive back, design several brochures to promote your community as a tourist attraction. Ask other teachers and students from the building to judge for attractiveness, accuracy, promotional incentives, and amount of information in the brochure. What jobs are created by an influx of tourists? How are present jobs in the community affected by tourists? If your community would become the home of another Disneyworld or Six Flags, how would the working community change?



CREATIVE AND CRITICAL THINKING

35. THE FUTURE TAKES PLANNING

Have students list three goals they have for their lives. Make sure the goals are specific. For example: I plan to be an apprentice in the brick mason area. I will go to Lakeland College for one year before the apprenticeship and then work for a brick mason until I learn the trade. Then I will try to build a business of my own and hire and teach other apprentices. Discuss the goals in groups of three students. Why is it necessary to set both short range and long range goals? Why do goals sometimes need to be modified?

36. MY NAME IS ALICE

Take your first name. Say as much about yourself as you can using words which fit into your name.

C$\boxed{A}$RRIER
S$\boxed{L}$ENDER
QU$\boxed{I}$ET
$\boxed{C}$OOK
SW$\boxed{E}$ET

You might make a Valentine's Day or Birthday card for a friend. Be sure to say positive things.

37. WHAT WOULD YOU SUGGEST WE DO?

Ask the students to write on a piece of paper how school could be changed to meet the needs of the real world after high school. Discuss the responses in class. What do students see adults feeling about their working world? How can students prepare themselves to meet these situations?

38. FAMOUS QUOTATIONS

Write a paragraph exploring what this statement means.

1. "Thinking is the hardest work there is." (Henry Ford)
2. "We know what we are. What we do not know is what we may become." (Hamlet)
3. "Achievement sleeps in many minds."
4. "Imagination is more important than knowledge." (Einstein)

39. CAN YOU DECIDE?

Obtain 10 cans. Number them from 1 to 10. Give each student small squares of paper or pieces of corn. The teacher asks a question or makes a statement such as:

1. Most 13 year old people are honest.

The student is to rate the statement on a continuum of 1-10, can #1 being, I do not believe the statement at all, to can #10, I do believe the statement to be totally true. You may have to explain that #5 and #6 cans mean they do not know or do not have an opinion. Each student puts one grain of corn or one piece of paper in the can closest to his or her opinion. Results are tabulated and a discussion is held.

Additional questions/statements might include:

1. School is fun.
2. Parents treat their children fairly.
3. "Country" is the best kind of music.
4. The lunches at this school are good.
5. It is better to work indoors than outdoors.
6. Going to college is essential today.
7. You have to be very smart to go to college.
8. Working with machines is for me.
9. Everyone should do volunteer work.
10. I know exactly what job I want when I get out of school.

40. USEFUL VS. USELESS OCCUPATIONS

In groups, have students make a list of the ten most useful (necessary) occupations. Rank order these from most useful to least useful. Do all groups agree about what the ten most useful occupations are? What makes them useful to some and not useful to others? Would their usefulness be the same in all parts of the country? In all parts of the world? Then do the same process only listing the 10 most useless occupations. Again, rank order them from least useful and up. What reasons do students give to support their uselessness? Are these jobs useless to everyone? What conclusions can be drawn by trying to determine most useful and most useless jobs? What determines whether a job is classified as useful or useless? How do their answers correspond to the idea of supply and demand?

41. WHAT COMES TO MIND WHEN I SAY: TRANSLATOR?

Name an occupation. The student is to think of three phrases that describe the occupation. They are then to form a non-verbal mental picture using these phrases. For example: The occupation of a translator might result in the following phrases:

1. Travel to foreign countries
2. Deep concentration ability
3. Ability to speak two or more languages
4. Meet interesting people, etc.

Make a list of phrases that describe the occupation by having each student verbally add a phrase until their ideas are exhausted. Have a few rather unknown occupations in the activity. Occupations might include:

1. Oceanographer
2. Anesthetist
3. Clothing designer
4. Marriage counselor
5. Missionary
6. Criminologist
7. Air flight dispatcher
8. Dog warden
9. Senator
10. Narcotics inspector
11. Manicurist
12. Cartoonist

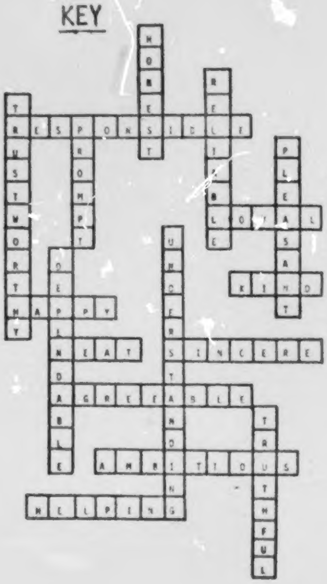
Latin Greek Italian

42. EMPLOYER QUALITY PUZZLE

Some very common words convey a very great impact when they are involved with employer-employee relationships. On ACTIVITY PAGE 147 , a number of these quality words have been formed into a puzzle. After the students have completed the puzzle, have them discuss the negative quality word (opposite of word given). Then prepare skits to illustrate both negative as well as positive quality words. How would having this quality as an employer be an asset? As an employee? What are the results when an employee (or an employer) does not always keep each quality?

42. EMPLOYER QUALITY PUZZLE (Cont'd)

KEY



43. RANK ORDERING CAREER OCCUPATIONS

Have the students write on a sheet of paper the following occupations. They are to cut the occupations apart. Then give the slips to three different adults and have them rank the occupations according to this question: Which job would you most want if you could change your occupation?

1. Minister
2. Store owner
3. Doctor
4. Farmer
5. Trash mover
6. Governor
7. House servant
8. Professor
9. Truck driver
10. Chef
11. Writer
12. Artist
13. Carpenter
14. Telephone operator
15. Lawyer

The student then records the order and gives a number to the order, 1 being the first choice, 15 being the least interesting choice. Form a composite tabulation of all results. Draw some conclusions as to which jobs are most attractive. Why? Do all people agree as to what jobs are attractive? Unattractive?

GENERAL

44. FIND IT IN THE YELLOW PAGES

Ask your students to select one job cluster. Use the phone book to find all the businesses in the community that fall into that cluster. List any additional information they can find out about those businesses from the phone book.

45. THESE SHOES ARE HIGH TOPPED, WELL WORN AND MUDDY

As a cooperative long range project which introduces many skills, have students take slides of shoes of people they know in various occupations. Arrange the slides, write a script, and make the slide tape presentation to at least one other class in school. A similar project might be a "working hands" presentation.

46. DEAR ABBY

Have each student write a "Dear Abby" type situation. After reading the situation to the class, have groups of students identify as many possible solutions to the problem as they can. In groups try to decide on the best solution to the problem. Discuss the different solutions of the groups.

Dear Abby,

47. PROFESSIONAL SPORTS ARE BIG BUSINESSES

Plan to "produce" your school's next athletic event like a professional game. Explain that there are many people involved in an athletic event besides the athletes.

Have sportswriters cover pre-game events. Make sure the designers and writers get their programs put together. Be sure broadcasters and photographers can execute their jobs. Help the advertising salesperson and artists prepare for their jobs.

On the day of the game, distribute pre-game press releases prepared by the news staff. Distribute programs. Position camerapersons.

Immediately after the game, have locker-room interviews and have sportswriters distribute news stories. Impress upon them the importance of deadlines.

Next day discuss all that went on. What new skills were acquired and what existing skills were put to use? Talk about the different jobs that are available using these skills and attitudes of people in these positions. What other workers are involved with an athletic event? (e.g., groundkeepers, officials, scorers, locker room attendants, etc.)

Big 10
Foot-
ball
5.00
Row A

48. DIFFERENT FACES IN AMERICA

Cut out letters to spell AMERICA and place it across the top. Then put FACES, down the left side. From magazines and other sources, cut out different faces that "make up" AMERICA - ages, races, expressions, etc.

Later you can change the topic to: Jobs - Products, etc. and illustrate these in the same way by finding pictures which illustrate that part of America.

Credit - #10

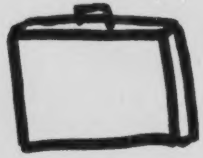
49. LIST OCCUPATIONS! READY, SET, GO

On special days or when you have a few extra minutes, divide the class into groups. Specify a time limit such as five minutes, and have the groups list as many jobs in a specific category as they can. Have the group who listed the most read its list and declare them winner if all answers are legal. Such categories might include: health occupations, jobs where you need to have a TB test, etc.

Some categories might include listing workers who:

1. Drive something
2. Use an electric machine
3. Wear a special hat
4. Wear a white uniform
5. Carry a brief case
6. Is his or her own boss
7. Use animals
8. Work without a set time schedule
9. Have at least 6 years of college training
10. Are paid with tax money

Credit - #10



50. "HELP WANTED" AD DAY

In order to get the students involved in reading the classified ads for job information have them:

1. Cut out ads and categorize them according to cluster area:
    a. Health Occupations
    b. Industrial Oriented Occupations
    c. Personal and Public Service Occupations
    d. Applied Biological and Agriculture Occupations
    e. Business, Marketing, and Management Occupations
2. Categorize ads according to the training needed:
    a. No training or on-the-job training
    b. Two-year or apprenticeship training
    c. Baccalaureate degree
3. Find and cut out ads which describe jobs requiring experience and jobs where no experience is needed.

50. "HELP WANTED" AD DAY (Cont'd)

4. Find:
    - a. Indoor jobs
    - b. Outdoor jobs
5. Locate:
    - a. Year-round jobs
    - b. Seasonal jobs
6. Write an ad asking for summer jobs suitable for "situations wanted" column, stating:
    - a. Job wanted
    - b. Qualifications
    - c. Hours available
    - d. Where you can be reached

Perhaps the "situations wanted" column could be duplicated and posted in the local supermarkets, laundromats, etc.

SITUATIONS
WANTED...

51. HELLO THERE

Trace communication systems from the Pony Express into the future (teleporters, telescreens, etc.). Have your students paint a mural depicting lifestyles (homes, people, country side) which revolved around the various types of communication systems as they developed.

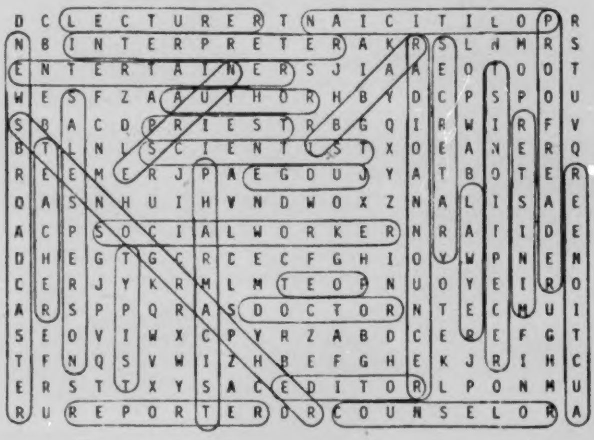
52. OCCUPATIONAL TWENTY QUESTIONS

Use such resources as the Dictionary of Occupational Titles, the Occupational Outlook Handbook, pamphlets, etc. Divide the class into two teams. Each student chooses a career and researches it. When students are knowledgeable about their specific occupations, each team sends a representative to stump the other team. Twenty questions are allowed but each question must be asked so that it can be answered with either, "yes" or "no". One point is given to the team if they guess the career in less than 20 questions or to the team who stumps their opponents. Students will learn about a variety of jobs and will become especially familiar with one.

53. OCCUPATIONS NEEDING LANGUAGE SKILLS

Some jobs require a good command of the English language. On ACTIVITY PAGE 149, locate 30 jobs where the worker must have good oral and/or written language skills

KEY



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D C L E C T U R E R T N A I C I T I L O P R
N B I N T E R P R E T E R A K R S L N M R S
E N T E R T A I N E R S J I A A E O T O O T
W E S F Z A A U T H O R H B Y D C P S P O U
S B A C D P R I E S T R B G Q I R W I R F V
B T L N L S C I E N T I S T X O E A N E R Q
R E E M E R J P A E G D U J Y A T B O T E R
Q A S N H U I H V N D W O X Z N A L I S A E
A C P S O C I A L W O R K E R N R A T I D E
D H E G T G C R C E C F G H I O Y W P N E N
C E R J Y K R M L M T E O P N U O Y E I R O
A R S P P Q R A S D O C T O R N T E C M U I
S E O V I W X C P Y R Z A B D C E R E F G T
T F N Q S V W I Z H B E F G H E K J R I H C
E R S T T X Y S A C E D I T O R L P O N M U
R U R E P O R T E R D R C O U N S E L O R A
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VOCABULARY BUILDING

54. WORDS ON APPLICATION FORMS SIMPLIFIED

Many of the words used on application forms may not be familiar to the students. Use real life situations for your vocabulary studies. Have the students obtain a number of job application forms used by businesses where they may be going to look for their first jobs. You may want to hand out ACTIVITY PAGE 151 , or you may want to have the students work in groups to find the meanings of the terms listed. Then have them complete the puzzle on ACTIVITY PAGE 153.

Identification Number?

54. WORDS ON APPLICATION FORMS SIMPLIFIED (Cont'd)

KEY

1. Permanent
2. Spouse
3. Supervisor
4. Employed
5. Experience
6. Social security number
7. Birth place
8. Part-time
9. Full time
10. Occupation
11. References
12. Interview
13. Temporary
14. Military
15. Dependents
16. Qualifications

Fill out the application form, if the students have not already done ACTIVITY PAGE 141. Use ACTIVITY PAGE 151 as a vocabulary building material. Have the students make up various kinds of puzzles and distribute them to classmates.

55. UNDERSTANDING WORDS (VALUES) EMPLOYERS HOLD TO BE IMPORTANT FOR WORKERS

Write definitions for each of the following words which describes a good worker:

1. Neat
2. Kind
3. Happy
4. Truthful
5. Loyal
6. Punctual
7. Honest
8. Helping
9. Sincere
10. Pleasant
11. Reliable
12. Ambitious
13. Agreeable
14. Dependable
15. Trustworthy
16. Responsible
17. Understanding

Now use these words to fill in the puzzle on ACTIVITY PAGE 147.

Punctual means
to be on time.

56. WHAT IS AN OSCILLOSCOPE, A MICROSCOPE, A TELESCOPE, A RADARSCOPE, A HOROSCOPE?

Use words from occupations to study roots, prefixes, and suffixes and at the same time assist students with career information. These might be occupational names, tool names, job description names, etc.

56. WHAT IS AN OSCILLOSCOPE, A MICROSCOPE, A TELESCOPE, A RADARSCOPE, A HOROSCOPE? (Cont'd)

1. Audiometer
2. Audiologist
3. Stethoscope
4. Barometer
5. Telescope
6. Oscilloscope
7. Meteorologist
8. Horoscope
9. Astrologist
10. Astronomy
11. Bacteriologist
12. Agronomy
13. Teleprompter
14. Dermetologist

57. ALL ABOUT ME

Using ACTIVITY PAGE 155, have the students complete, using a variety of words, each of the statements to describe themselves. Tell them their responses will not be shared with their classmates. Try to find time to talk with each student about their responses in order to better understand them. Or, have your students write an essay using the information to cite their dreams and desires for the future in regard to finding satisfaction in life.

LISTENING

58. LET'S WATCH THE NEWS

Divide the class into three groups: 1/3 watches CBS news, 1/3 NBC news, 1/3 ABC news. The next day have a discussion as to how the reporting was done.

-NEWS-

CBS NBC ABC

59. AN AREA VOCATIONAL CENTER IS HERE IN OUR TOWN?

Most people especially students, are not aware of the learning possibilities provided through the Area Vocational Centers. Take a field trip to your center. Go to find answers to specific questions. It would be best for you, the teacher, to go to the center first and familiarize yourself with all the services available there. Prepare a list of questions about all phases of the center. This list might include items such as:

1. What class teaches students how to work with children?
2. What type of engine were the people in the small engines class taking apart?
3. What are two health occupations courses taught?
4. What type of welding did you observe?
5. If you wanted to be a bookkeeper, what would be one course you would be apt to take?
6. What agricultural class deals with studying kinds of snails?

You will find other questions you will want the class to find the answers to when you make your initial visit. Be sure to help the students determine some questions about which they want to find the answers.

Credit - #16

60. TEENAGE MAGAZINE ARTICLES RECORDED

Tape some selections from:

1. Career World
2. Co-Ed
3. American Girl
4. Teen

Often material from these magazines will fit in very well with career ideas or with planning for the future. Have the students practice taking notes on these editorial type selections. As they learn the skills, they also become familiar with planning ahead with ideas such as career choices, career preparation, and choices of lifestyles.

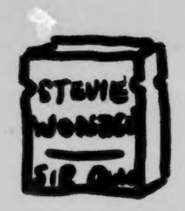
AMERICAN GIRL

Credit - #16

61. A LONG DISTANCE INTERVIEW

Have students design a questionnaire seeking job information or you may use one similar to ACTIVITY PAGE 139. Ask the students to send the questionnaire along with a cassette, to a well-known person. A personal letter explaining the questionnaire and the purpose of the assignment must accompany the tape. After a tape is received, share it with the class and then have the students write thank you notes. Share the tapes with another class. Suggested people for students to send tapes to might be:

1. The mayor
2. The chief of police
3. The fire chief
4. An actor or actress
5. A senator or representative
6. The newspaper editor
7. An author
8. A football, baseball, or basketball player
9. A hotel manager
10. An astronaut
11. A bank president
12. A store manager



ACTIVITY PAGE

DIRECTIONS: Choose a classmate for a partner. Read and discuss the three poems below. Your teacher will give you some questions to help you in discovering what the poems say.

WORK

by Henry Van Dyke

Let me but do my work from day to day
In field, or forest, at the desk or loom
In roaring market place or tranquill room;
Let me but find it in my heart to say
When vagrant wishes beckon me astray,
This is my work; my blessing, not my doom
Of all who live, I am the one by whom
This work can best be done in the right way,
Then shall I see it not too great, nor small
To suit my spirit and to prove my powers;
Then shall I cheerful greet the labouring hours
And cheerful turn when the long shadows fall
At eventide, to play, and love and rest,
Because I know for me, my work is best.

A CREED

by Edwin Markham

There is a destiny that makes us brothers
None goes his way alone
All that we send into lives of others
Come back into our room.
I care not what his temples or his creeds.
One thing holds firm and fast
That into his fateful heap of day and deeds
The soul of man is cast.

TWO AT A FIRESIDE

author unknown

I built a chimney for a comrade old,
I did the service not for help or hire.
And then I traveled on in the winter's cold
Yet all the day I glowed before the fire.

ACTIVITY PAGE

A CAREER QUESTIONNAIRE

DIRECTIONS: Interview any worker. Find the answers to the questions below.

1. What is the name of your job? ______________________________

2. Briefly outline your normal working day.

____

____

____

3. What physical skills and abilities do you need?

4. What special interest are involved?

5. What education and special training are needed?

6. What high school courses would be helpful?

7. Where are these jobs found? ______________________________

8. What are possible earnings for a beginner? _____ For a person with 5 year's experience? _____ A person with 20 year's experience? _________

9. What are the working conditions like?

10. What are the chances for promotion?

11. What is the future for jobs of this kind?

Student, on the back of this sheet write your responses to these questions:

12. What are some possible disadvantages to this job?
13. What are some possible advantages?
14. What do you, as a student, like about this job?
15. What do you, as a student, dislike about this job?

LANGUAGE ARTS
SPRINGBOARD NO. 13 & 61

Credit - #16

ACTIVITY PAGE

STATE BOARD OF EDUCATION
ILLINOIS OFFICE OF EDUCATION
APPLICATION FOR EMPLOYMENT
An Equal Opportunity Employer

Please Answer all Questions Completely — Type or, in Ink, Legibly Print Answers — Use Additional Pages as Needed

All persons shall receive fair, equal and impartial treatment by the Illinois Office of Education. All personnel processes shall be conducted without regard to race, creed, color, national origin, sex, age or physical handicap.

NAME (Last) (First) (Middle Initial)	SOCIAL SECURITY NUMBER	HOME PHONE	BUSINESS PHONE

ADDRESS (Number, Street, City, County, State, and Zip Code)

PERMANENT ADDRESS

TITLE OR KIND OF POSITION DESIRED	EARLIEST DATE AVAILABLE FOR WORK

☐ Yes ☐ No Are you willing to relocate? ☐ Yes ☐ No Will you travel if required?

CHOICE OF WORK LOCATION: ☐ Chicago ☐ Champaign/Urbana ☐ Springfield ☐ Mt. Vernon ☐ DeKalb ☐ Other

☐ Yes ☐ No Do you have a valid driver's license? ☐ Yes ☐ No Do you have a car available for your use?

CITIZENSHIP

☐ Yes ☐ No Are you a citizen of the United States?
IF YOU CHECKED NO, COMPLETE THE FOLLOWING:

ALIEN REGISTRATION NUMBER	DATE FILED	DECLARATION OF INTENTION NUMBER	DATE FILED

What kind of visa do you possess? Class ______________ Number ______________

HEALTH

WHICH BEST DESCRIBES YOUR HEALTH? ☐ Excellent ☐ Good ☐ Fair ☐ Poor

☐ Yes ☐ No Do you have any physical limitations?
IF YES, DESCRIBE:

MILITARY

☐ Yes ☐ No Are you a Veteran?	BRANCH OF SERVICE	SERVICE NUMBER

DATES OF SERVICE From To	CURRENT STATUS ☐ Active Duty ☐ Reserve ☐ National Guard	RANK	SELECTIVE SERVICE STATUS

EDUCATION AND TRAINING

SCHOOL	CIRCLE YEARS COMPLETED	NAME OF SCHOOL	CITY, STATE	DATES ATTENDED		MAJOR or FIELD	DIPLOMA or DEGREE
				From	To		
High School	1 2 3 4						
College or University	1 2 3 4						
Graduate							
Other (Voc., Tech., etc.)							

LICENSES

LICENSE TITLE	ISSUING AGENCY	DATE ISSUED	EXPIRATION DATE	LICENSE NUMBER

OTHER EXPERIENCES AND TALENTS — Indicate additional information regarding any education, related experiences, activities, special abilities and knowledge you may possess.

WORK HISTORY

ist your previous employment. Start with your present job and work backward; also list any period of unemployment of two months or more in duration.

NAME OF EMPLOYER	ADDRESS	EMPLOYED FROM Mo. Yr.	EMPLOYED TO Mo. Yr.
POSITION HELD	NAME OF SUPERVISOR	STARTING SALARY	ENDING SALARY
DUTIES	☐ Yes ☐ No Was position supervisory? REASON FOR LEAVING		

NAME OF EMPLOYER	ADDRESS	EMPLOYED FROM Mo. Yr.	EMPLOYED TO Mo. Yr.
POSITION HELD	NAME OF SUPERVISOR	STARTING SALARY	ENDING SALARY
DUTIES	☐ Yes ☐ No Was position supervisory? REASON FOR LEAVING		

NAME OF EMPLOYER	ADDRESS	EMPLOYED FROM Mo. Yr.	EMPLOYED TO Mo. Yr.
POSITION HELD	NAME OF SUPERVISOR	STARTING SALARY	ENDING SALARY
DUTIES	☐ Yes ☐ No Was position supervisory? REASON FOR LEAVING		

NAME OF EMPLOYER	ADDRESS	EMPLOYED FROM Mo. Yr.	EMPLOYED TO Mo. Yr.
POSITION HELD	NAME OF SUPERVISOR	STARTING SALARY	ENDING SALARY
DUTIES	☐ Yes ☐ No Was position supervisory? REASON FOR LEAVING		

NAME OF EMPLOYER	ADDRESS	EMPLOYED FROM Mo. Yr.	EMPLOYED TO Mo. Yr.
POSITION HELD	NAME OF SUPERVISOR	STARTING SALARY	ENDING SALARY
DUTIES	☐ Yes ☐ No Was position supervisory? REASON FOR LEAVING		

REFERENCES

Give the names of three persons not related to you whom you have known through school, business or personal association.

NAME	ADDRESS AND PHONE	OCCUPATION	Number of Years Known

I hereby affirm that my answers to the foregoing questions are true and correct, and I understand that misrepresentation or omission of facts called for in this application may be cause for rejection of application, or may be sufficient grounds or cause for termination. I authorize inquiry about my character, ability and habits with all persons who have been in a position to assess these qualities.

I understand and agree to engage in no activity outside my state employment which will conflict with my regular hours of work, impair my efficiency or be considered a conflict of interest in performance of my assigned duties.

I further understand and agree to accept no payment or other benefits other than my established salary and/or approved reimbursements for expenses incurred in performance of my assigned duties.

DATE ____________ SIGNATURE OF APPLICANT ____________

ACTIVITY PAGE

CAREER INFORMATION ADDRESSES

BARBERING
National Career Center
3839 White Plains Road
Bronx, New York 10467

BEAUTICIAN
National Career Center
3839 White Plains Road
Bronx, New York 10467

INDUSTRIAL ARTS
American Industrial Arts Assoc.
1201 16th Street, N.W.
Washington, D.C. 20036

FARMING
U.S. Dept. of Agriculture
Washington, D.C. 20250

LAWYERS (40¢)
American Bar Association
1155 East 60th Street
Chicago, IL. 60637

TEACHERS
American Federation of Teachers
11 Dupont Circle, N.W.
Washington, D.C. 20036

BUILDERS
Associated Builders and
Contractors, Inc.
P.O. Box 8733
Baltimore-Washington International
Airport, MD 21240

ROAD CONSTRUCTION
American Road Builders' Assoc.
ARBA Building
525 School Street, S.W.
Washington, D.C. 20024

CARPENTRY
United Brotherhood of Carpenters
and Joiners of America
Apprenticeship and Training Dept.
101 Constitution Ave., N.W.
Washington, D.C. 20001

SECRETARY ($3.00 for kit)
The National Secretaries Assoc.
2440 Pershing Road
Suite 610 -- Crown Center
Kansas City, Missouri 64108

ARMED FORCES
Naval Architects and Marine
Engineers
74 Trinity Place
New York, N.Y. 10006

NEWSPAPER WORK
American Newspaper Publishers
Assoc. Foundation
P.O. Box 17407
Dulles International Airport
Washington, D.C. 20041

TRUCKING
American Trucking Assoc., Inc.
1616 P. Street, N.W.
Washington, D.C. 20036

PHYSICAL EDUCATION AND COACHING
American Association of Health,
Physical Education and Recreatio
1201 Sixteenth Street, N.W.
Washington, D.C. 20016

HEALTH OCCUPATIONS
American Medical Association
Bureau of Health Education
535 N. Dearborn Street
Chicago, IL 60610

DENTISTRY
American Dental Association
211 East Chicago Avenue
Chicago, Illinois 60611

ILLUSTRATING & GRAPHIC ARTS
Society of Illustrators
128E 63 Street
New York, N.Y. 10021

HOME ECONOMICS
American Home Economics Assoc.
2010 Massachusetts Ave., N.W.
Washington, D.C. 20036

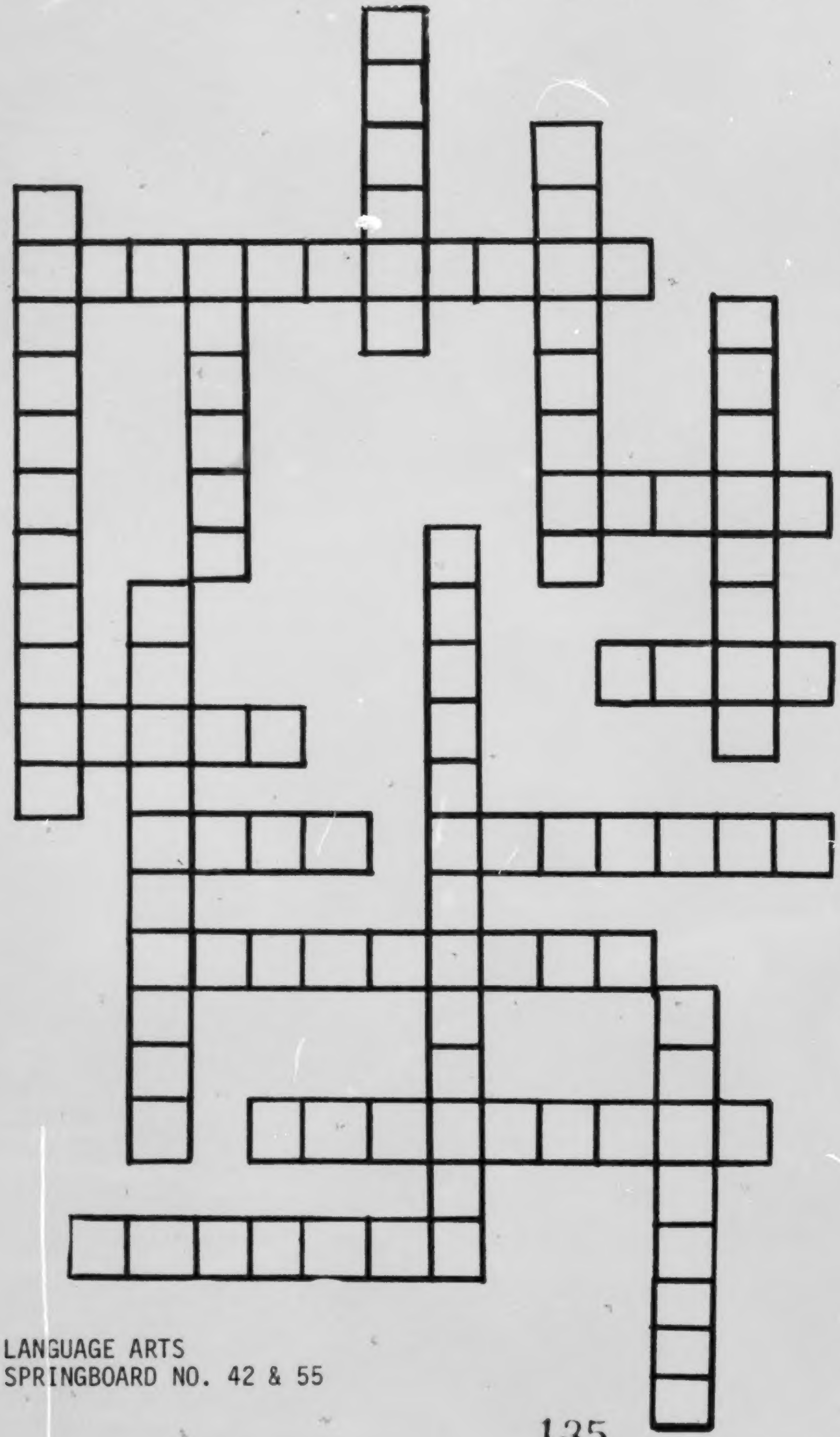
SPACE
National Aeronautics and Space
Administration
Washington, D.C. 20546

CLOTHING
Amalgamated Clothing Workers of
America
15 Union Square
New York, N.Y. 10003

ACTIVITY PAGE

EMPLOYER QUALITY PUZZLE

DIRECTIONS; Put the words in the right places in the puzzle. (Hint: There is only one word that has 13 letters and only one word that has 10 letters. Where would they go?) Good Luck!



4-Letter words
Neat
Kind

5-Letter words
Happy
Loyal

6-Letter words
Prompt
Honest

7-Letter words
Helping
Sincere

8-Letter words
Pleasant
Reliable
Truthful

9-Letter words
Ambitious
Agreeable

10-Letter word
Dependable

11-Letter words
Trustworthy
Responsible

13-Letter word
Understanding

LANGUAGE ARTS
SPRINGBOARD NO. 42 & 55

ACTIVITY PAGE

These jobs needing a very good command of the English language, both oral and written, can be found across, down, up, or diagonally.

D	C	L	E	C	T	U	R	E	R	T	N	A	I	C	I	T	I	L	O	P	R
N	B	I	N	T	E	R	P	R	E	T	E	R	A	K	R	S	L	N	M	R	S
E	N	T	E	R	T	A	I	N	E	R	S	J	I	A	A	E	O	T	O	O	T
W	E	S	F	Z	A	A	U	T	H	O	R	H	B	Y	D	C	P	S	P	O	U
S	B	A	C	D	P	R	I	E	S	T	R	B	G	Q	I	R	W	I	R	F	V
B	T	L	N	L	S	C	I	E	N	T	I	S	T	X	O	E	A	N	E	R	Q
R	E	E	M	E	R	J	P	A	E	G	D	U	J	Y	A	T	B	O	T	E	R
O	A	S	N	H	U	I	H	V	N	D	W	O	X	Z	N	A	L	I	S	A	E
A	C	P	S	O	C	I	A	L	W	O	R	K	E	R	N	R	A	T	I	D	E
D	H	E	G	T	G	C	R	D	E	C	F	G	H	I	O	Y	W	P	N	E	N
C	E	R	J	Y	K	R	M	L	M	T	E	O	P	N	U	O	Y	E	I	R	O
A	R	S	P	P	Q	R	A	S	D	O	C	T	O	R	N	T	E	C	M	U	I
S	E	O	V	I	W	X	C	P	Y	R	Z	A	B	D	C	E	R	E	F	G	T
T	F	N	Q	S	V	W	I	Z	H	B	E	F	G	H	E	K	J	R	I	H	C
E	R	S	T	T	X	Y	S	A	C	E	D	I	T	O	R	L	P	O	N	M	U
R	U	R	E	P	O	R	T	E	R	D	R	C	O	U	N	S	E	L	O	R	A

KEY

AUCTIONEER
AUTHOR
COUNSELOR
DOCTOR
EDITOR
ENTERTAINER
INTERPRETER
JUDGE
LAWYER
LECTURER

MINISTER
NEWS BROADCASTER
NURSE
PHARMACIST
POET
POLITICIAN
PRIEST
PROOF READER
RABBI

RADIO ANNOUNCER
RECEPTIONIST
REPORTER
SALESPERSON
SCIENTIST
SECRETARY
SOCIAL WORKER
STENOGRAPHER
TEACHER
TYPIST

LANGUAGE ARTS
SPRINGBOARD NO. 53

ACTIVITY PAGE

BELOW ARE THE DEFINITIONS OF WORDS OFTEN USED ON APPLICATION FORMS

Address: Where you live

Arrested: Caught by police for breaking a law

Birthplace: City and state where you were born

Citizen: Legal resident of a country

Current: At this time, now

Department: Specific area or position of a job

Dependents: People you support

Divorced: Married once, but not any more

Education: The schools you have gone to

Emergency: Sudden happening that needs attention or action

Employed: Having a job

Experience: The work you have done before

Felony: A serious crime

Female: Girl or woman

Full-time: Working 40 hours or more a week

Height: How tall you are

Interview: A meeting with an employer to talk about a job

Investigate: To look further at what is said on paper

Location: The place where something is

Male: Boy or man

Married: Having a husband or wife

Military Service: Armed forces such as army, navy, marines, etc.

Occupation: Job

Part time: Working less than 40 hours a week

Past: Before now

Permanent: Long lasting

Permanent address: Where you will live for a long time

Physical disabilities: Injuries or weaknesses

Position: A job or office held

Present: Now, at this time

Previous: Before now

Qualifications: Experience or training for a job

Recent: Last, just finished

Recommendation: A letter that people write to help you get a job

References: People who know you and can answer questions about you

Relatives: People in your same family

Salary: Money you earn by the month or year

Signature: Your name written by you

Single: Never been married

Skills: Things you learned or practiced to do well

Social security number: Identification number

Spouse: Husband or wife

State of health: How your health is

Supervisor: Person who watches workers

Temporary: For a short time

Temporary address: Where you live when you are not living at home

Wage: Money you earn by the hour

Weight: How much you weigh

ACTIVITY PAGE

APPLICATION WORDS

DIRECTIONS:

Use Application Words sheet. From the Application Word sheet, find the word that has the definition given in the second column. Write the word in the first column.

_ _ _ _ A _ _ _ _	1. Long lasting
_ P _ _ _ _	2. Husband or wife
_ _ P _ _ _ _ _ _ _	3. Person who watches workers
_ _ _ L _ _ _ _	4. Having a job
_ _ _ _ _ I _ _ _ _	5. The work you have done before
_ _ _ _ _ _ / _ _ C _ _ _ _ _ / _ _ _ _ _ _	6. Identification number
_ _ _ _ _ / _ _ A _ _	7. City and state where you were born
_ _ _ _ / T _ _ _	8. Working less than 40 hours a week
_ _ _ _ / _ I _ _	9. Working 40 hours or more a week
_ _ _ _ _ _ _ _ O _	10. Job
_ _ _ _ _ _ N _ _ _	11. People who know you and can answer questions about you.
_ _ _ _ _ _ _ _ W	12. Meeting with an employer to talk about a job
_ _ _ _ O _ _ _ _	13. For a short time
_ _ _ _ _ _ _ _ / _ _ R _ _ _ _	14. Armed forces such as army, etc.
_ _ _ _ _ D _ _ _ _	15. People you support
_ _ _ _ _ _ _ _ _ _ _ _ _ S	16. Experience or training for a job

LANGUAGE ARTS
SPRINGBOARD NO. 54

ACTIVITY PAGE

ALL ABOUT ME

DIRECTIONS: Complete the sentence using a variety of words to make very clear, true statements about yourself.

1. I feel that my father seldom ____________________.
2. When the odds are against me ____________________.
3. I always wanted to ____________________.
4. To me the future looks ____________________.
5. I know it is silly but I am afraid of ____________________.
6. I feel that a real friend ____________________.
7. Compared with most families mine ____________________.
8. My mother ____________________.
9. I would do anything to forget the time I ____________________.
10. If my father would only ____________________.
11. I believe that I have the ability to ____________________.
12. I could be perfectly happy if ____________________.
13. I look forward to ____________________.
14. I don't like people who ____________________.
15. My family treats me like ____________________.
16. My mother and I ____________________.
17. My greatest mistake was ____________________.
18. My secret ambition in life ____________________.
19. Some day I ____________________.
20. What I want most out of life ____________________.
21. When I am older ____________________.

MATHEMATICS
SPRINGBOARDS

NUMERATIONS

1. FUEL IS SOLD BY THE GALLON

Have your students conduct research at a local service station. They are to find out how much fuel is sold in a given month. Have them record the number of gallons of regular, non-leaded, premium, and diesel fuel sold during a month's time. Each student will make a chart to show the price and number of gallons sold daily.

	REGULAR		NON-LEADED		PREMIUM		DIESEL	
DAY	COST	GALLONS SOLD	COST	GALLONS SOLD	COST	GALLONS SOLD	COST	GALLONS SOLD

1. FUEL IS SOLD BY THE GALLON (Cont'd)

1. Have each student figure out how many gallons of each type of gas were sold during the month of research. Have them ask the service station manager what profit the station makes on each type of gas and then have them figure the gross profit for the month. What expenses must be paid before a net profit can be considered?
2. How large are the station's fuel tanks? Based on your research, how many times a month must they be filled?
3. How big is the fuel tank of a small (Chevette) car? A large (Cadillac) car? A Ford pick-up truck? A GMC dump truck? A Greyhound bus?
4. What kind of fuel does a large coach bus use? A school bus? How many gallons does each hold? How much does it cost to fill these tanks?
5. How much will 18 gallons of non-leaded gas cost? Seventeen gallons of regular? Nineteen gallons of premium?
6. How many gallons of diesel fuel can a driver buy for the cost of 20 gallons of premuim gasoline?
7. What is a dipstick? How does a station attendant read a dipstick?

You can use the information collected for any number of problems. Have the students write three other questions, exchange problems, figure the problems and hand them back to the owner to check.

2. MANUFACTURING IS BIG BUSINESS

Machinists in a local manufacturing plant make parts for truck engines. They are required to make the following parts each day.

PART	QUANTITY
Piston	15
Bearing	9
Valve	11
Gear	6
Piston Ring	8

1. How many parts do they make each day? (49)
2. How many do they make in a week? (49 x 5 = 245)
3. How many bearings do they make in 15 days? (135)
4. They work an 8 hour day, 8:00-12:00 and 1:00-5:00.

2. MANUFACTURING IS BIG BUSINESS (Cont'd)

Last Tuesday, by 3:00 they had made 12 pistons, 7 bearings, 8 valves, 3 gears and 6 piston rings. How many parts did they have to make from 3:00-5:00 o'clock to finish their quota? (13)

Invite a parent who works in industry to visit class to discuss job quotas, reasons for lay-offs, changes in rates of production. What are the differences between piece work and assembly line work? How would the attitudes of the workers differ in the two situations? Take a poll to find out how many of the class would prefer each working situation.

3. LEARN ABOUT BANKING SYSTEMS

Raise capital for your school by having a fund-raising activity. The capital will then be used to issue bank loans. Have the bank workers apply and be interviewed for the job.

When a loan is taken out the bank worker will fill out a form similar to No. 1 shown and will give it to the student to be used as payment for lunch. The student taking out the loan will complete form No. 2. This form is kept on file by the bank worker. At the end of the lunch period, have a cafeteria worker return all the No. 1 forms to the bank to be paid. Form No. 3 will be used for bank bookkeeping. Interest is charged at the rate of 1 cent a day for the first day, 2 cents a day for the next 2 days, and 5 cents for each day thereafter.

BANK

3. LEARN ABOUT BANKING SYSTEM (Cont'd)

FORM NO. 1

LUNCH TICKET

DATE: ____________

NAME: ____________

H.R.: ____________

AMOUNT: ____________

FORM NO. 2

LUNCH LOAN

NAME: ________________

H.R.: ________________

DATE: ________________

I agree to pay 1¢ interest for the first day of my loan, 2¢ a day for the next 2 days, and 5¢ a day for each day thereafter.

SIGNATURE: ____________

- - - - - - - - - - - - - - - - - -

LUNCH $ .65

INTEREST ____________

TOTAL ____________

DATE PAID: ____________

SIGNATURE OF BANK WORKER

____

FORM NO. 3

BANK CASH BOX BALANCE

DATE: ________________

	NUMBER	AMOUNT
$5 BILLS		
$1 BILLS		
HALF DOLLARS		
QUARTERS		
DIMES		
NICKELS		
PENNIES		

TOTAL CASH ON HAND $________

TOTAL AMOUNT OF LOANS PAID $________

TOTAL $________

TOTAL AMOUNT OF LUNCHES PAID $________

BALANCE ________

SIGNATURE OF WORKER

____

3. LEARN ABOUT BANKING SYSTEM (Cont'd)

At the end of each month have the bank workers give a report on the status of the bank. Have the bank workers send statements to those students having outstanding bills. Use the interest earned to pay bank workers.

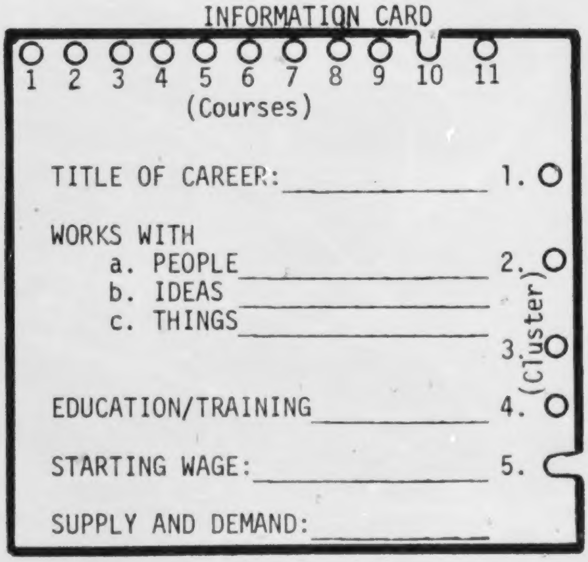
4. RETRIEVAL FILE

Illinois identifies 5 Clusters of Occupations:

1. Applied Biological and Agricultural Occupations
2. Business, Marketing, and Management Occupations
3. Health Occupations
4. Industrial Oriented Occupations
5. Personal and Public Service Occupations

Have each of your students research three careers in each of the five clusters. Each student will complete one information card (see illustration below) for each career researched. The cards are then stored in a file box for the rest of the students to use in researching careers. To make an easy retrieval system, follow the directions on the following page.

INFORMATION CARD



TITLE OF CAREER:______________

WORKS WITH
  a. PEOPLE______________
  b. IDEAS ______________
  c. THINGS______________

EDUCATION/TRAINING______________

STARTING WAGE:______________

SUPPLY AND DEMAND:______________

COURSES

1. Social Studies
2. Science
3. Math
4. Language Arts
5. Music
6. Art
7. Physical Education/ Health
8. Industrial Arts
9. Home Economics
10. Agriculture
11. Business

4. RETRIEVAL FILE (Cont'd)

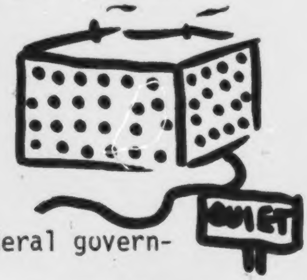
1. Punch holes in each circle above the 11 courses and to the side of the 5 clusters.
2. Decide what cluster the career is in and cut or punch from the number punch to the edge of the card. (See No. 5)
3. Decide what courses the career is related to and cut or punch that number(s) to the top of the card. (See No. 10)
4. Fill in the rest of the information on the card.
5. File all cards together.
6. Decide what cluster you are interested in and push a knitting needle through that number. Those that fall off the needle will be the cluster of your choice.
7. Gather the cards that fell off and push the needle through the subject number of your strength and interest. Those cards that fall off the needle will meet both your interest in cluster and subject.

Discuss the retrieval system and how it works. What other ways can you develop a retrieval system? What does a computer programmer need to know about setting up a retrieval system? Name other workers that would use a retrieval system.

5. CONSTRUCTION

A city is funding a new hospital; it is being funded by various sources:

Federal	$2,852,000.00
State	1,360,000.00
County	423,000.00
City	130,000.00
Private	650,000.00



1. What is the total funding available?
2. How much more of the funding will come from the federal government than from the state government?
3. How much funding comes from county, city, and private sources?
4. What percent of the funds come from the Federal government? The state government? The county? The city? Private funds?
5. List all the jobs you can think of which will be involved in building a hospital. List all the jobs you can think of which will be involved in operating the finished hospital. Which jobs would be considered health occupations? Which ones would

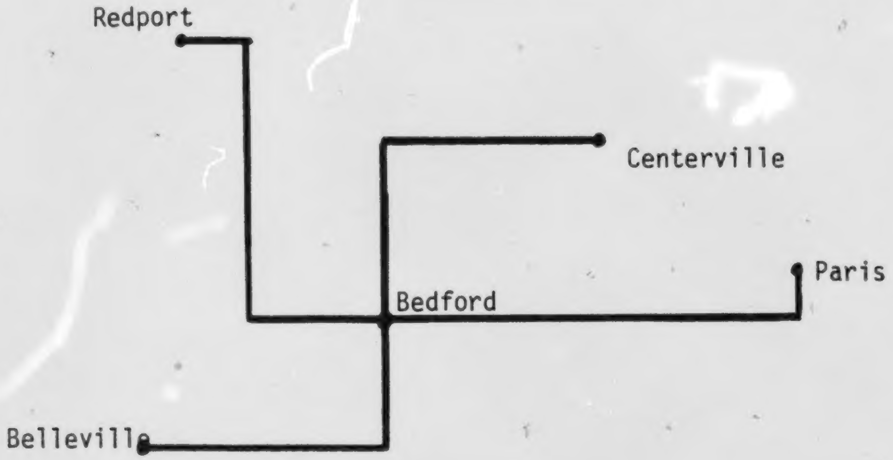
5. CONSTRUCTION (Cont'd)

be considered business, marketing, and management occupations? Which ones would be considered personal and public service occupations? Which ones would be considered applied biological and agriculture occupations? Which ones would be considered industrial oriented occupations?

6. CARTOGRAPHY - MAP SKILLS

Using the map and scale, have your students measure to find the distances between the following towns using the scale 1 cm = 7 km

1. Belleville and Paris (12 cm - 84 km)
2. Belleville and Centerville (11 cm = 77 km)
3. Bedford and Redport (7 cm = 49 km)
4. Redport and Paris (13.5 cm = 94.5 km)
5. Redport and Belleville (roundtrip) (12.5 cm x 2 = 175 km)



7. PERSONAL FINANCE

Have the students suppose they have invested $100 in a savings account that pays 5% annual interest. At the end of 1 year they will have earned $5.00 interest. If they leave both the investment of $100 and the interest of $5.00 in the account during the 2nd year, they will receive interest of 5% on the combined total of $105. This is called compound interest.

1. Have your students pretend they have won $50,000 in the state lottery and invested it all in a savings account earning 5% interest annually. At the end of each year they withdraw the 5% they have made on the interest. How much interest would they have withdrawn after 1 year ($2,500), 5 years ($12,500), 10 years ($25,000), and 15 years ($37,500).
2. Have your students find the compound interest for the following amounts invested over a 5-year period at a 5% annual interest rate.

YEAR	INVESTED		
(Compound interest)	$100	$2,500	$6,000
1st	(5.00)	(625.00)	(300.00)
2nd	(10.25)	(756.25)	(615.00)
3rd	(15.76)	(894.06)	(945.75)
4th	(21.55)	(1038.76)	(1293.04)
5th	(27.63)	(1190.70)	(1657.69)

3. Are there other types of savings accounts? What are they? (Certificates, payroll savings, tax sheltered annuities). How much do they pay? (Check current amounts.) How are they different? (Method of payment, length they must remain before being withdrawn, interest rate, amount you can deposit and time you can deposit.) As an added activity have a life insurance agent come to class to explain all the ways in which he/she uses math in his/her occupation.

I have money!

8. CONSUMER FINANCE

Have your students be professional painters. Have them find the area of the walls and ceiling of your classroom. What is the area of your classroom that will not be painted? What is the area that will?

1. Have your students collect labels from several different brands of paint. How much surface can be covered by a liter of each type of paint? How many liters of each type will be needed to paint the entire room?
2. What is the cost of each liter of paint? How much will the paint cost to paint the room with each brand of paint? If you wanted to paint each wall and the ceiling a different color, how much would it cost?
3. Find out: How much is a painter paid for each hour of work? How long will it take a painter to paint the room? How much will the painter charge for labor to paint the room?
4. Ask a painter which is quicker to work with--a brush or a roller? Which causes the more mess? Why? Using the average figures above, how much will it cost to paint the entire school?

Credit - #2

9. COMPUTING VOLUME

Have your students:

1. Find the number of garbage cans for each family on your block. Also find and list the number of persons in each family. What is the average number of garbage cans each person fills in a collection period? A month? A year?
2. How tall is the garbage can (average can)? What is its diameter? Cubic decimeter capacity? How many cubic decimeters of garbage does your family set out each collection period? Each month? Each year? How much are you responsible for if you and your family members each contribute an equal share to the garbage?
3. How many people live in your town? How much total garbage do you think your city contributes to the garbage dump each day? Each month? Each year?
4. How much does your city garbage truck hold before it needs to be emptied?

9. COMPUTING VOLUME (Cont'd)

5. How much longer do you think it will be before your city or country garbage dumping area will be filled to capacity? What will happen to your garbage then?

Credit - #2

ADDITION/SUBTRACTION

10. INVENTORY TIME AGAIN

Inventory is an important part of business. It is necessary for businesses to have a continued supply of materials in stock.

The inventory for the Uptown Restaurant on June 30 was as follows:

Item	Amt. on Hand Jan. 1	Present Supply	Supply Used
Napkins	200 boxes	37 boxes	(163 boxes) ?
Sugar	400 km	82 km	(318 km) ?
Straws	200 boxes	(100 boxes) ?	100 boxes
Salt	75 km	(29 km) ?	46 km
Placemats	(1775)?	247	1528
Glasses	10 doz.	7 doz.	(3 doz.)?
Pepper	(35 km)?	23 km	12 km

1. Have your students figure out the missing information, (those with "?").
2. Have your students make a chart of other items needed in the restaurant's inventory.
3. Have your students bring in an inventory sheet used by a business.
4. Have your students talk with school personnel (cooks, janitors, principal, secretary) concerning inventories of school supplies.
5. Have students make an inventory of materials within the classroom.
6. Hold a class discussion on the consequences of over-ordering or under-ordering a particular item to be sold in a business. What personal qualifications should the individual in charge of

10. INVENTORY TIME AGAIN (Cont'd)

doing the inventory have?

7. Have students write a Want Ad advertising for a person in charge of inventory.

Credit · #2

11. DIETITIANS AND MATHEMATICS

Dietitians excel in the sciences of nutrition and management. They are experts in the art of feeding people. In order to do this they need certain math skills.

Obtain a kilojoule (calorie) chart for your classroom. Have your students keep track of the amount and type of food they consume in 24 hours. Have them determine the amount of kilojoule intake for the 24 hours. Then have your students keep track of the amount and type of exercise they have in a 24 hour period and the amount of kilojoules burned off as a result of this exercise. Have them compare the kilojoule intake to the kilojoule use to see if they should be gaining weight or losing weight. How should they adjust their input if they wish to gain weight? How should they adjust it if they wish to lose? Have them draw up a sample balanced diet for the amount of daily kilojoule intake they desire to lose or gain weight.

BALANCED DIET

12. BRAKING DISTANCE

A traffic officer can tell the speed of a car by measuring the braking distance. Your students can use their bicycles to measure braking distances. Mark a starting and stopping point on the playground. Have the students pedal their bicycles very fast up to the stopping line and stop as quickly as they can. Have them measure the distances they traveled beyond the stopping point. Try the same thing at slow and medium speeds. Measure the distances. What were the three braking distances. How much longer was the fast speed distance than the slow? How much longer was the medium speed distances than the slow? How do these distances compare to the fast speed? What are the dangers related to fast driving? Why are speed limits related to the location

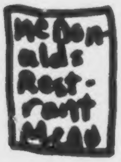
12. BRAKING DISTANCE (Cont'd)

and type of roads?

Have your students secure a driving manual from your state and read the sections related to speeds and stopping distances. Invite a traffic officer to class to explain the ways in which the speeds of cars are measured other than measuring stopping distances. What do the length and direction of skid marks at the scene of an accident show?

13. YOUR BILL IS $5.45

Collect order pads from the short order restaurants in your town. Give an order form from each restaurant to each student. Give them hypothetical orders for each form. Each student will compute the cost of each order and total the sales ticket within 10 seconds of time. How many were correct? Why is it necessary for a short order restaurant worker to be accurate in totaling bills? Why is it necessary for them to be fast in totaling bills?



14. LET'S TAKE A TRIP

Have your students collect travel folders or distance charts from travel agencies, motor clubs, bus terminals, or state transportation agencies. Have all of your students map out a particular trip and figure out the distance to the destination. On the return trip they are to map out an alternate route. What was the total distance? Which was the shortest route? Have your students make up an expense log. What kinds of expenses would have to be included (e.g., 15¢ per kilometer for use of the car and gasoline, 1 liter oil for every 1500 kilometers, food, lodging, etc.)? Perhaps your students could consult their parents regarding the actual costs of their last family vacation. Have your students write to bus companies or trucking firms to find out how they figure expenses.

15. SOME JOBS INVOLVE TRAVEL

Many jobs require that the worker travel. What are some of these jobs? What are the advantages and disadvantages? These workers are usually given an expense allowance. Have your students figure out the weekly expenses for the worker on ACTIVITY PAGE 197

KEY

	FOOD		TRAVEL		LODGING	
	SPENT	ALLOWED	SPENT	ALLOWED	SPENT	ALLOWED
TOTALS	62.90	60.00	72.05	75.00	95.40	95.00

TOTAL EXPENSES $230.35

TOTAL ALLOWANCE $230.00

How much more were the worker's expenses than was allowed? (35¢)

MULTIPLICATION/DIVISION

16. REGULAR WAGES AND OVERTIME FIGURED

To help your students understand that multiplication of decimals is necessary in computing hourly wages and payroll, have them complete ACTIVITY PAGE 199.

Discuss overtime wages. What kind of workers receive overtime pay? What are the advantages and disadvantages? Discuss working for pay. Is this the major concern when looking for jobs? What other aspects should be considered? Why do some seasonal workers receive high pay? (e.g., construction workers)

16. REGULAR WAGES AND OVERTIME FIGURED (Cont'd)

KEY

1.	$98.80	$25.94	$29.64	$154.38
2.	106.00	7.95	.00	113.95
3.	250.00	28.13	62.50	340.63
4.	236.00	53.10	82.60	371.70
5.	184.29			
6.	107.33			
7.	117.65			
8.	32 hours			
9.	91.64			
10.	64.12			
11.	143.76			
12.	42 hours			
13.	197.23			
14.	38 hours			

Overtime Pay is Great!!

17. TRANSPORTATION PROBLEMS

To involve your students in some of the realistic problems that a bus driver meets daily, have your students complete ACTIVITY PAGE 201.

Discuss the advantages and disadvantages of being a bus driver. Arrange for a panel discussion. Include a city bus driver, a school bus driver, and a long distance bus driver. Have your students prepare the questions to submit to the driver before the panel.

KEY

1. a. 0 b. 17 c. 1 d. 10

2. a. 1)	$79.80	b. 1)	$1.41
2)	36.45	2)	1.07
3)	23.70	3)	3.56
4)	127.50		

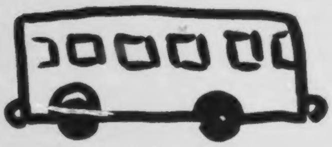
17. TRANSPORTATION PROBLEMS (Cont'd)

3.

Date	Total kilometers to be traveled during the trip	Avg. kilometers traveled each hour	Time trip started	Time driver must stop driving	Kilometers traveled today	Kilometers remaining to be traveled
July 1	1200	55	6:53a.m.	(8:53 p.m.)	(660)	(540)
July 2	(540)	35	8:08a.m.	(10;08 p.m)	(420)	(120)
July 3	(120)	40	10:38a.m.	(2:38 p.m.)	(120)	(0)
Aug. 8	3876	55	6:43a.m.	(8:43 p.m.)	(660)	(3216)
Aug. 9	(3216)	53	10:00a.m.	(12:00 p.m.)	(636)	(2580)
Aug. 10	(2580)	50	11:26a.m.	(1:26 a.m.)	(600)	(1980)
Aug 11	(1980)	49	7:30a.m.	(9:30 p.m.)	(588)	(1392)

4.

Maryland	13	13
Pennsylvania	110	123
Ohio	208	331
Indiana	115	446
Illinois	197	643
Missouri	256	899
Kansas	290	1189
Colorado	420	1609
Wyoming	93	1702



Credit - #2

18. PLANES ARE FASTER

Have your students plan a trip to Disneyland, California. Have them investigate how long the various modes of transportation would take them.

For example:

MODE	DISTANCE	RATE M.P.H.	TIME	COST
Car	1500 miles	55 mph	(about 27¼ hrs.)	
Bus	1500 miles	55 mph	(about 27¼ hrs.)	
Train	1500 miles	80 mph	(about 18 3/4 hrs)	
Plane	1500 miles	700 mph	(about 2¼ hrs.)	

Also have them find out what each mode would cost them (use present rates). Which mode of transportation would be the most economical? What additional costs would be involved with the different kinds of travel? Do you pay extra for meals on a plane? On a train? How many times does a bus stop for meals? Car? Does a plane provide sleeping accommodations? A train? Is this service extra? Does a bus stop at night? How much extra would it cost you for lodging if traveling by bus or by car?

What are the advantages and disadvantages of each mode of transportation? Divide your class into four groups and have them figure the total cost involved for each type of transportation mentioned.

19. SPORTS STATISTICIAN

To involve your students in some of the activities in which sports statisticians are involved, have them complete ACTIVITY PAGE 205.

Discuss the different types of statistics used in baseball, football, basketball, and bowling. Do statistics have any effect upon the evaluation of a professional athlete?

KEY

1. 309
2. a. 4.7%
   b. 2.8%
   c. 19.5%
   d. 73%
3. 91319 people
4. 9 yards
5. 248 yards
6. 372.5
7. 18 goals
8. 39 points
9. a. $1.65
   b. $8.25
10. 146 average
11. 2190 points

APPLICATION AND PROBLEM SOLVING

20. RISK TAKING

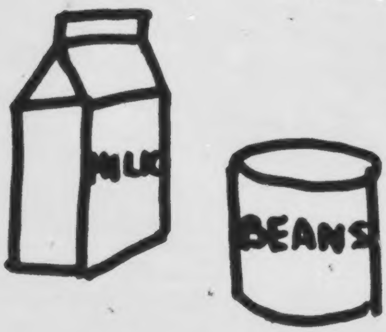
Some jobs require that the worker take some risks. What kinds of jobs require that people take risks? What kinds of different risks are there? For example:

1. Entry risks: professional athletes, entertainers, actors/actresses
2. Financial risks: opening business, commissioned salespersons, farm operators
3. Physical risks: miners, construction workers, athletes

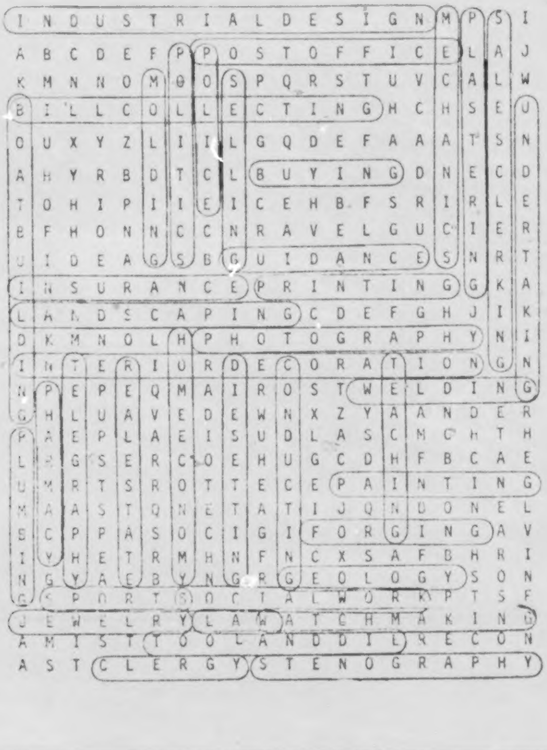
What kinds of financial risks does a person take when opening a new business? Where does the person go to get the needed capital? How much interest is charged and how and when does it have to be repaid?

21. CAREERS IN GENERAL MATHEMATICS

To help your students become aware of the careers in which general math is used, have them complete ACTIVITY PAGE 207. How is math used in each of these careers?



KEY



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I N D U S T R I A L D E S I G N M P S I
A B C D E F P P O S T O F F I C E L A J
K M N N O M O O S P Q R S T U V C A L W
B I L L C O L L E C T I N G H C H S E U
O U X Y Z L I I L G Q D E F A A A T S N
A H Y R B D T C L B U Y I N G D N E C D
T O H I P I I E I C E H B F S R I R L E
B F H O N N C C N R A V E L G U C I E R
U I D E A G S B G U I D A N C E S N R T
I N S U R A N C E P R I N T I N G G K A
L A N D S C A P I N G C D E F G H J I K
D K M N O L H P H O T O G R A P H Y N I
I N T E R I O R D E C O R A T I O N G N
N P E P E Q M A I R O S T W E L D I N G
G H L U A V E D E W N X Z Y A A N D E R
P A E P L A E I S U D L A S C M C H T H
L R G S E R C O E H U G C D H F B C A E
U M R T S R O T T E C E P A I N T I N G
M A A S T Q N E T A T I J Q N D O N E L
S C P P A S O C I G I F O R G I N G A V
I Y H E T R M H N F N C X S A F B H R I
N G Y A E B Y N G R G E O L O G Y S O N
G S P O R T S O C I A L W O R K P T S F
J E W E L R Y L A W A T C H M A K I N G
A M I S T T O O L A N D D I L R E C O N
A S T C L E R G Y S T E N O G R A P H Y
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22. ENGINEERING JOBS OF ALL KINDS

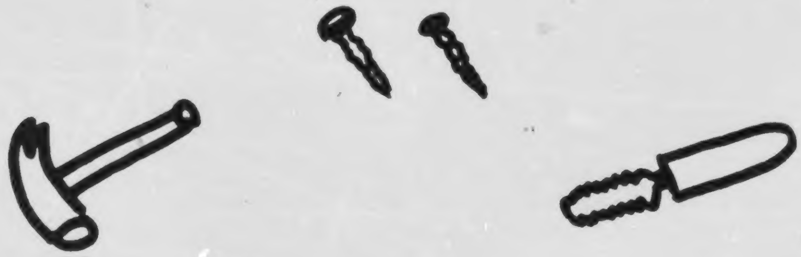
To acquaint students with the vast number of jobs available in engineering, create a panel guessing game patterned after "What's My Line?" including panel, guest, and moderator.

Designate a certain number of your students to research different fields of engineering. They are to be the guests. They may collect their information from interviewing workers in the field and/or by researching available materials in the classroom and library.

Select a panel and have them research the total field of engineering. Have the panel ask questions about how math is used in that particular engineering occupation. Each member of the panel can ask questions of the guest until a "no" answer is given. Then questioning moves to the next panel member. The moderator keeps track of the "no" answers. Set a time limit for guessing the occupation of each guest or a specific number of "no" answers allowed, such as 10.

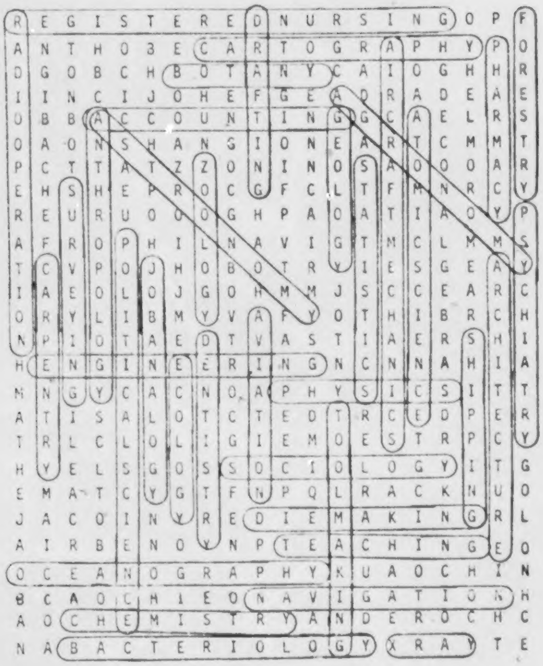
23. ALGEBRA

To help your students decide whether they should take algebra in high school, have them become aware of careers that require knowledge of algebra by having them complete ACTIVITY PAGE 209.



23. ALGEBRA (Cont'd)

KEY



R	E	G	I	S	T	E	R	E	D	N	U	R	S	I	N	G	O	P	F
A	N	T	H	O	3	E	C	A	R	T	O	G	R	A	P	H	Y	P	O
D	G	O	B	C	H	B	O	T	A	N	Y	C	A	I	O	G	H	H	R
I	I	N	C	I	J	O	H	E	F	G	E	A	D	R	A	D	E	A	E
O	B	B	A	C	C	O	U	N	T	I	N	G	G	C	A	E	L	R	S
O	A	O	N	S	H	A	N	G	I	O	N	E	A	R	T	C	M	M	T
P	C	T	T	A	T	Z	Z	O	N	I	N	O	S	A	O	O	O	A	R
E	H	S	H	E	P	R	O	C	G	F	C	L	T	F	M	N	R	C	Y
R	E	U	R	U	O	O	O	G	H	P	A	O	A	T	I	A	O	Y	P
A	F	R	O	P	H	I	L	N	A	V	I	G	T	M	C	L	M	M	S
T	C	V	P	O	J	H	O	B	O	T	R	Y	I	E	S	G	E	A	Y
I	A	E	O	L	O	J	G	O	H	M	M	J	S	C	C	E	A	R	C
O	R	Y	L	I	B	M	Y	V	A	F	Y	O	T	H	I	B	R	C	H
N	P	I	O	T	A	E	D	T	V	A	S	T	I	A	E	R	S	H	I
H	E	N	G	I	N	E	E	R	I	N	G	N	C	N	N	A	H	I	A
M	N	G	Y	C	A	C	N	O	A	P	H	Y	S	I	C	S	I	T	T
A	T	I	S	A	L	O	T	C	T	E	D	T	R	C	E	D	P	E	R
T	R	L	C	L	O	L	I	G	I	E	M	O	E	S	T	R	P	C	Y
H	Y	E	L	S	G	O	S	S	O	C	I	O	L	O	G	Y	I	T	G
E	M	A	T	C	Y	G	T	F	N	P	Q	L	R	A	C	K	N	U	O
J	A	C	O	I	N	Y	R	E	D	I	E	M	A	K	I	N	G	R	L
A	I	R	B	E	N	O	Y	N	P	T	E	A	C	H	I	N	G	E	O
O	C	E	A	N	O	G	R	A	P	H	Y	K	U	A	O	C	H	I	N
B	C	A	O	C	H	I	E	O	N	A	V	I	G	A	T	I	O	N	H
A	O	C	H	E	M	I	S	T	R	Y	A	N	D	E	R	O	C	H	C
N	A	B	A	C	T	E	R	I	O	L	O	G	Y	X	R	A	Y	T	E

As a follow-up activity have your students make a list of examples of how algebra is used in each occupation.

24. MATH SKILLS ARE USED DAILY

To help your students become aware of the different levels of training required for occupations that require a knowledge of mathematics skills develop a bingo game in this way:

1. Run off 30-50 blank copies of the following to be used as bingo cards:

24. MATH SKILLS ARE USED DAILY (Cont'd)

MINIMUM MATHEMATICS SKILLS REQUIRED

JUNIOR HIGH SCHOOL	HIGH SCHOOL	JUNIOR COLLEGE/OR TECHNICAL SCHOOL	COLLEGE
J	O	B	S

2. Have your students, as a group, name 15 occupations (for each category) for which workers need: (total = 60)
   - a. A knowledge of junior high math skills
   - b. A knowledge of high school math skills
   - c. A knowledge of junior college or technical school math skills
   - d. A knowledge of college math skills
3. Write these occupations at random on the "JOBS" card to correspond with the training required.
4. Type the 60 occupations, cut and use as bingo numbers. Be sure each occupation has a "J" "O" "B" or "S" to correspond with the amount of math skill required.
5. Proceed to play "JOBS."

25. A DAY IN BUSINESS

Have your students (groups of 2 or 3) collect items from 10 local businesses which require the user of the item to have a knowledge of math skills (e.g., blueprints, tax records, ledgers, time clocks, payroll, products, etc.). Each group is to discuss the mathematical skills required of the worker who uses each item. As a class, develop a bulletin board displaying one of each kind of item collected.

26. COMPUTERS MAKE WORK EASIER

Introduce your students to work which a computer does. Among other things, computer personnel handle inventory, personnel, accounts, and purchasing operations. Computers also help with the operation of missiles and vehicles, government projects, and large industrial operations. In order for a computer to function properly humans must supply it with the necessary information and tell it how to set up the problem. Talk about how a computer works and how a computer can communicate with a person. Introduce the terms "input" and "output" How can a computer read? How can a computer write? How can a computer remember? Discuss the various careers associated with the function of a computer.

For example:

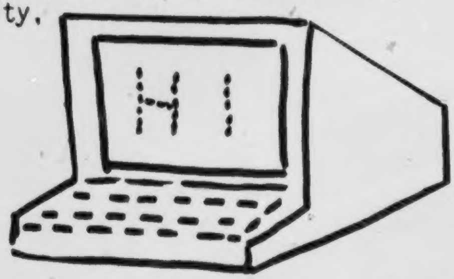
1. Key punch operator
2. Tape librarian
3. Console operator
4. Repair technician
5. Programmer
6. Systems analyst

If possible visit a local facility in which a computer can be observed in operation and where your students can talk with the people working with the computer. Perhaps your district uses a computer for scheduling, grades, etc. Have someone explain how a computer is instructed, the language computers use, and how a program is written. What amount of training/education do the various careers related to computer technology require?

An additional activity is to have a committee study the effects of data processing upon the work roles of various people in schools (teachers, counselors, secretaries,) and in the community.

26. COMPUTERS MAKE WORK EASIER (Cont'd)

Have a unit on simple programming. Your math textbook may include a unit; if not find a supplement to use for the activity.



27. PREDICTING THE FUTURE TAKES SKILLS

Have your students use anonymous student records to develop expectancy tables for predicting high school and post high school grades. Develop basic data tabulations and percentages. Discuss the change factor in predicting outcomes of behavior.

28. CHANCE, A MATH WORD

Discuss "chance" with your students as a mathematical concept. How would "chance" affect your getting a certain job?

29. SUCCESS CAN SOMETIMES BE PREDICTED

Have your students read autobiographies or biographies of famous people and predict the probability of their being successful in other careers.

30. STATISTICS ON STEREOTYPING

Poll seventh and eighth grade math students and their teachers, asking questions like:

1. Why do girls need math skills? Why do boys need math skills?
2. Who needs math the most--the student going to college or the student going directly to work after high school? Why?
3. Should girls specialize in math? Why? Should boys specialize in math? Why?
4. Do you expect boys to do better in math than girls?

The results could be discussed in terms of the number of women entering the engineering and mathematical fields. Interviews with workers in non-traditional roles will illustrate individual success in areas generally considered inappropriate for certain types of people. Survey math textbooks to see how stereotypes are used in word problems, pictures, and narrative examples. Want ads in newspapers may illustrate how specific qualifications in math are required in certain occupations and how some jobs are labeled as only appropriate for certain applicants. Compile statistics for the other groups and make charts and graphs illustrating the findings. Using U.S. Department of Labor publications, obtain graphs showing the percentage of women and minorities in the work force, and graphs comparing the earning power of women with that of men. For example:

Credit - # 1

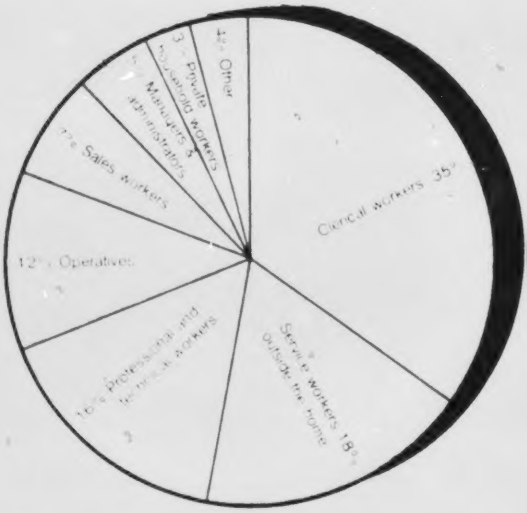
Comparison of Median Earnings of Year-Round Full-Time Workers,
by Sex, 1970-1974
(Persons 14 years of age and over)

Year	Median earnings Women (1)	Median earnings Men (2)	Earnings gap in dollars (3)	Women's earnings as a percent of men's (4)	Percent men's earnings exceeded women's (5)	Earnings gap in constant 1967 dollars (6)
1974	$6,772	$11,835	$5,063	57.2	74.8	$3,433
1973	6,335	11,186	4,851	56.6	76.6	3,649
1972	5,903	10,202	4,299	57.9	72.8	3,435
1971	5,593	9,399	3,806	59.5	68.0	3,136
1970	5,323	8,966	3,643	60.5	65.3	3,133

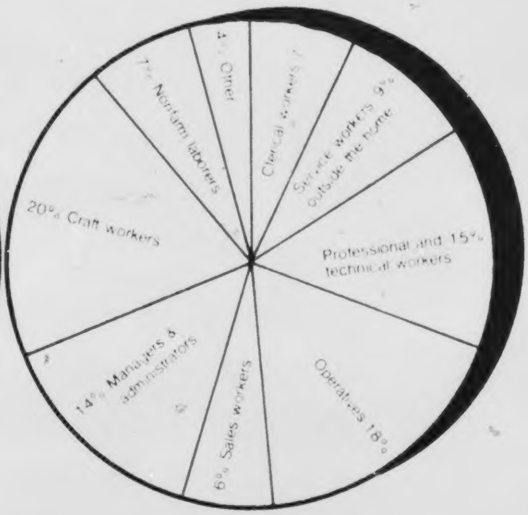
Source: U.S. Department of Commerce, Bureau of the Census: "Money Income of Families and Persons in the United States," Current Population Reports, 1957 to 1975. U.S. Department of Labor Statistics: Handbook of Labor Statistics, 1975.

30. STATISTICS ON STEREOPYING (Cont'd)

The occupational distribution of women is very different from that of men. This is shown in the following charts for employed persons in 1975.



Women



Men

Source: U.S. Department of Labor, Employment Standards Administration, Women's Bureau, "The Earnings Gap Between Women and Men."

As an added activity discuss the cost and benefits to a family of a working mother.

WHY?

MEASUREMENT

31. MICROMETERS, A MATH INSTRUMENT

To show your students the practical application of precision measurements and relative error concepts to the world of work, invite a speaker from the community to show your students how to use, and the uses of, a micrometer. Divide the class in groups to practice measuring with a micrometer. What careers require the worker to have knowledge in the use of a micrometer? How do decimals in measurement increase possibilities for precision?

32. ROLE PLAY TO GAIN CAREER FEELINGS

To find out what it might feel like to be a grocery store clerk, role play the following situation. Identify two students, one will play the role of the stock clerk and the other the role of the shopper.

STOCK CLERK: You are a recent high school graduate who is now working as a stock clerk at the Yummy Grocery Store. While in school, you were really "turned off." One reason for this was that you saw little future use for English, math, science, and other classes you had to take. You really enjoy the work in the grocery store. Your thinking is to start here and gain experience at the ground level and hopefully move into management in this field. This afternoon a frantic customer approaches you for assistance in locating some items on a shopping list. You lead the customer to the items and then start back on your own work.

CUSTOMER: You are hosting an Italian dinner party this evening. It is now late afternoon. Lacking several items necessary for the preparation of your meal, you run into a nearby Yummy grocery store.

For your lasagna recipe you need:

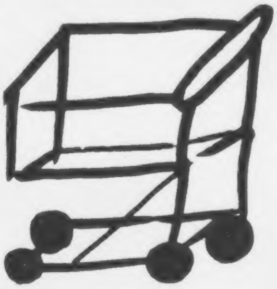
1 - 2 lb. can of Italian tomatoes
1 - 6 oz. bottle of olive oil

Having difficulty in locating these items, you ask

32. ROLE PLAY TO GAIN CAREER FEELINGS (Cont'd)

for the assistance of the stock clerk. The clerk helps you find the items and is about to go back to work. Just then you notice that the tomatoes come only in these sizes: 1 kilogram, 3.5 kilograms, 5 kilograms, 8 kilograms, and 10 kilograms. Sizes on the olive oil are: 0.3 liter, 0.5 liter, 1.0 liter, and 2.0 liter.

Discuss what happened.



Credit - #15

33. HOME CONSTRUCTION SPECIALISTS NAMED

The construction of a home involves many persons. In one way or another each of the occupations involved uses mathematics. Discuss the following seven occupations involved in constructing a house. Divide your class in seven groups. Assign one of the seven home construction occupations to each group and have them list all the mathematical activities for which that worker is responsible.

1. The carpenter must serve an apprenticeship to learn the trade.

   Discuss the following areas:
   a. Reading blueprints
   b. Measuring materials
   c. Laying out foundations
   d. Making sure corners are "square" using a 3-4-5 triangle diagonal.

2. The brickmason constructs walls, fireplaces, chimneys, etc. with bricks and cement blocks. Years of training are required to learn to be uniform in all details of work. Mathematics are needed to determine:

   a. Numbers of bricks needed
   b. Amounts of materials, such as cement
   c. Height of structures (using geometry) when doing repair work.

33. HOME CONSTRUCTION SPECIALISTS NAMED (Cont'd)

3. The plumber installs water, gas, and heating lines in the home. Following high school graduation a 5-year apprenticeship is served which includes both on-the-job and classroom training. The plumber must be able to determine:

    a. Amounts of materials (pipes, heating ducts, etc.) needed
    b. Where to place heating ducts and pipes according to blueprint specifications

4. The painter does much of the finish work on a home after it has been completed. The painter must be able to determine:

    a. Heights of ladders needed for each job
    b. Square feet of area to be painted
    c. Cost of the paint needed to cover the home
    d. Amount of paint needed to cover the home

5. The electrician installs the electrical wiring in the home and often connects lighting fixtures. The training is much like that of the plumber. The electrician must be able to determine:

    a. Where outlets are to be placed according to the blueprints
    b. Amounts and sizes of wire needed

6. The landscape architect often places the finishing touches on the outside of the home. Training in both landscaping and architecture is needed to be able to determine:

    a. Areas needed for grass seeding
    b. Site of plants and trees in relation to the home
    c. Cubic feet of stone
    d. Scale of blueprints

7. The interior decorator puts the finishing touches on the inside of the home. The interior decorator must be able to determine:

    a. Wall areas for wall paper and other special wall treatments
    b. Amounts of material needed for draperies, etc.
    c. Amounts of material for carpeting, etc.
    d. Blueprint specifications

33. HOME CONSTRUCTION SPECIALISTS NAMED (Cont'd)

Each worker must be able to figure estmates and make bids. Allow each student to work problems similar to those that might be found in the above occupations. Use ACTIVITY PAGE 211, 213, 215.

KEY

1. 4 squares to cover the mirror
2. the board is two segments long
3. 12
4. a. wire
   b. block
   c. square
   d. block
   e. square
   f. wire
   g. square
   h. block
   i. square
5. 61 meters
6. 96 square meters
7. 280 square meters
8. 50 cm
9. a. 32 meters
   b. 6 meters
   c. 228 cm
10. $504.00
11. 4.8 cubic meters
12. $40.80

34. DESIGN AND CONSTRUCT A SCALE MODEL BUILDING

Have your students design a scale model of their dream resort cottage, home or office. Individually have your students:

1. Determine their needs for the kind of building they choose to design.
2. Determine where they will build it.
3. Determine their cost ceiling.
4. Draw rough layout plans.
5. Determine physical dimensions in relation to the property dimensions and terrain.
6. Draw up the blueprints.
7. Determine the steps to be followed in building.
8. Determine materials needed in building.
9. List all workers needed in building.

34. DESIGN AND CONSTRUCT A SCALE MODEL BUILDING (Cont'd)

10. Estimate costs of materials.
11. Estimate number of hours each worker will be needed, find out wages charged per hour, and estimate total wages of workers.
12. Estimate the cost of building by adding estimated costs of materials and labor.

35. GRAPHING CLASS MEMBERS' ATTITUDES

After your students study the charts, graphs, and other numerical data in the census, Department of Labor, and other economic and occupational publications, involve them in the following activities:

Devise a simple questionnaire using some of the suggested questions that can be answered with a "yes" or "no". Take a poll of seventh and eighth grade students to find out how many have ever:

1. Dreamed of being famous?
2. Cheated on an exam?
3. Felt free to discuss sex with their parents or a significant adult?
4. Felt free to discuss sex with their teachers?
5. Wished they were a small child again?
6. Wanted to be able to direct a symphony orchestra?
7. Refinished a piece of furniture?
8. Thought their parents or guardians were too strict?
9. Thought their teachers were not strict enough?
10. Wanted to become a professional athlete?
11. Won an award or trophy?
12. Earned their own money?

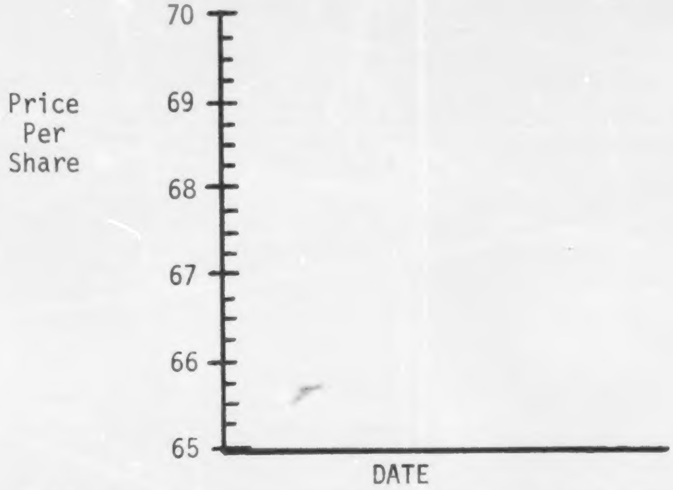
Use the data collected to make graphs.

As additional activities:

1. Graph the growth in labor unions from 1900 to present.
2. Graph various economic indices such as stock market averages, the gross national product, percentage of unemployment, and other economic data reported in the media.
3. Graph the performance of a stock on the New York Stock Exchange. For example, General Motors stock sells for 66 3/8 which means its selling price is 66 3/8 dollars per share. Changes in stock are reflected in points and fractions of points. One

35. GRAPHING CLASS MEMBERS ATTITUDES (Cont'd)

point equals 1 dollar; ½ point is 50¢; ¼ point is 25¢; 1/8 point is 12½¢. The following example illustrates how a graph chart on General Motors stock may be set up.



Have students follow a stock or several stocks over a given period of time. A graph similar to the one above could be made. The price scale will differ according to different stocks. To illustrate growth or loss more vividly, the price scale can be subdivided into eighths.

Credit - #2 for No. 3

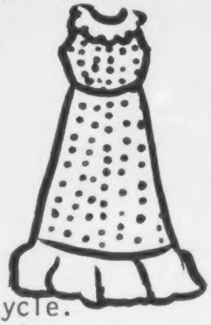
MONEY

36. FURNISHINGS COSTS FIGURED

Have each student plan new furnishings for one room in the house or apartment in which they live. They are to compute the total cost by listing all items. Then give each student a ceiling cost and have them figure which items they could do without. Which ones did they choose to eliminate? Why?

37. GARMENT COSTS FIGURED

Have your students figure the cost of making a garment. They are to include hours of labor as well as materials and use of equipment. Have your students ask your home economics teacher for help. How does this figure compare to the cost of a similar ready-made garment sold in a local store?



38. FIGURING BICYCLE COSTS

Each of your students has just purchased a used ten-speed bicycle. The bicycle needs new tires, a new seat, and new handle bar grips. They also want to purchase lights and packs for behind the seats. Have each of them figure the total cost for a bicycle and accessories. Have one group of students purchase their items from a catalog and another from a local bicycle shop. Compare the results of the two totals. How do the two totals compare to the cost of a new bicycle?

39. AUTOMOBILE MECHANICS GAIN SATISFACTION

The U.S. citizen, it has been said, has a love affair with the automobile. Working on cars to make them "come back to life" offers many personal satisfactions to anyone who likes to work with tools and machines.

In a survey by the Labor Department in 1974, skilled automobile mechanics employed by auto dealers in 34 cities had average earnings of $5.16 an hour. Mechanics are detectives who work with their hands. They have to diagnose problems and then do the necessary repair work. A great variety of testing equipment is available to the mechanic. Among these are a motor analyzer, a spark plug tester, and a compression gauge.

Car mechanics usually work independently and without direct supervision. They must, therefore, have a sense of responsibility and the patience to stick with a job until it is done. Although most mechanics do repairs of all kinds, some become specialists. They may specialize in one type of work such as repairing transmissions, clutches, engines, generators, carburetors, electrical systems, air conditioning, or tuneups.

The following learning activities are designed to aid students in learning how mathematics is related to aspects of the occupation of automobile mechanic.

1. From the accompanying price list, calculate the "bill" for a customer who wants a chassis lubrication and oil change (compute sales tax only on supplies and not on labor).

LABOR	COST
Chassis lubrication	$3.00
Lubricating wheel bearings (2)	5.50
Install oil filter	1.25
Oil change	(No charge)

SUPPLIES	COST
Oil, brand x, per liter	$0.80
Oil, brand y, per liter	.95
Oil, brand z, per liter	.85
Gear lubricant, per ½ liter	.65
Oil filter	3.85

   a. Chassis lubrication; oil change (five liters of brand x,) sales tax, 5 percent. ($7.20)
   b. Chassis lubrication; oil change (six liters brand y); ½ liter gear lubricant; sales tax, 5 percent. ($9.67)
   c. Chassis lubrication; oil change (five liters of brand z); lubrication, front wheel bearings; 1 liter of gear lubricant in rear end; sales tax, 5 percent. ($15.01)

2. Many other mathematical exercises related to the automobile can be developed--a study of road maps, the cost of owning a car, and the like. Information can be obtained from automobile companies and the U.S. Departments of Transportation and Labor. The teacher will need to develop current, up-to-date data in these exercises. Teachers are encouraged to use their own ingenuity and imagination in efforts to visualize mathematics instruction by creating career relevant instructional materials.

Credit - #13

40. ELDERLY AND HANDICAPPED

Have your students, through math problems, examine the difficulties of meeting the physical needs of individuals when they are unable to work due to accident or if handicapped and/or retired and living on a fixed income. Have them compute the cost of food, clothing, and shelter for one month. Consider how these costs affect their standards of living.

41. MAKING BUDGETS HELP STUDENTS UNDERSTAND MONEY

Developing budgets can help students understand that knowledge of math skills is needed in everyday life situations. Involve your students in the following activities:

1. Develop a budget for themselves for the school year. Discuss short term and long term goals.
2. Develop a weekly budget based on their yearly budget.
3. Compute the costs of future education/training on a yearly basis. Include tuition, books, room and board, travel, etc.
4. Describe a preferred style of life in terms of major expenditures and purchases in the future.

Explore decisions for earning money, saving money and deciding how income can be spent to the best advantage. Discuss how planning and making decisions about money can increase one's control over what happens.

That's not in my
Budget!

42. CONTROLLING MONEY TAKES SKILL

With your students discuss how sound money management and investments allow for greater control over money. How can a good credit rating be influential? How can lack of money management place individuals under the control of other people? What kind of restraints and responsibilities do loan and credit industries have? How do credit agencies spot pitfalls in spending? Perhaps you could invite a credit manager or loan officer to sit in on this discussion.

42. CONTROLLING MONEY TAKES SKILL (Cont'd)

Based on the above discussion develop math problems to show how deficit spending can be costly. There are different types of loans, installment plans and investments. Compute interest rates on the different types and determine which gives the consumer the greatest control.

43. UNDERSTANDING SALARY AND PAYROLL

Salaries and payroll deductions vary. To help your students understand these deductions, involve them in the following activities:

1. Survey local newspaper accounts of occupational salary raises and compare them with the cost of living figures.
2. Study the salaries described in the want ads. Discuss the reasons for different salaries.
3. Compute the costs of getting a job through a private employment agency.
4. Discuss the various ways of paying salaries (e.g., hourly wages, monthly wages, percentage commissions, yearly wages).
5. Study the various payroll deductions:
    a. Social Security
    b. U.S. Withholding
    c. State Withholding
    d. Health Insurance
    e. Life Insurance
    f. Union Dues
    g. Savings Bonds
    h. Other

PAYROLL
DEDUCTIONS...

44. BUYING A STEREO SYSTEM

Inform your students that they are planning on purchasing a very fine quality stereo system. Unfortunately the cost is extremely high, $850. In order to purchase this stereo system they are going to have to save money for some time. Tell them the amount they save every month depends on their monthly income and the type of job they hold. To assign jobs and the percentage each will be able to save, write occupations on slips of paper with a reasonable percentage for savings. Once the students have drawn their occupations from a hat, they must research to find out how much money they can make in their first year. Then the students must figure how long it will take them to save for their stereo system. Discuss how the type and amount of income must affect luxury purchases.

45. CREDIT CARD GAME

The game of "Charge," ACTIVITY PAGE 217, is designed to help students realize the pitfalls, as well as advantages of a credit card. It illustrates the various factors affecting the payment of credit card expenses. We recommend that the game be conducted under teacher supervision and the different consequences be discussed as they occur.

RULES

1. As many players can participate as seems feasible for the classroom situation.
2. One die is used to determine the number of spaces a player must move.
3. Upon landing on any square, a player must follow the directions of that square. (If players land on a square which says, "Go back 2 spaces," they follow those directions. They also follow the directions on the square on which they land after moving back the 2 spaces, which means they may have to lose a turn also.)
4. In order to win, a player must roll the exact number of spaces to reach "Good Crediting Rating." For example, a player on #15 must roll either a 2 or 3 to win. If a 4 or more is rolled, the player must wait until the next turn to try again.

MASTER
CHARGE

46. I COST MONEY

Have the students estimate the amount of money their parents or guardians spend on them alone. Use the categories on the chart below. Change the figures used in the chart if you wish.

PER CHILD

ITEM	RATE	PER YEAR	AT AGE 18	AT AGE 21
Clothing	$15.00 mo.	($180.00)	($3,240)	($3,780)
Education				
a. K-12	3.48 mo.	(41.76)	*13 (542.88)	
b. College (2 yr. - 4 yr.)	3,500 yr.	(3,500.00)	*	*
c. Technical Training	3,000 yr.	(3,000.00)	*	*
Food	2.90 day	(1,058.50)	(19,053.00)	(22,228.50)
Medical	12.60 mo.	(151.20)	(2,721.60)	(3,175.20)
Misc.	27.25 mo.	(327.00)	(5,886.00)	(6,867.00)
Room	26.00 mo.	(312.00)	(5,616.00)	(6,552.00)

Have the students compare their estimates. *Will depend on individual plans. Answers are in parentheses.

That's Unreal!

47. BUSINESS, MARKETING AND MANAGEMENT

To help your students understand that cashiers do various kinds of math problems in their jobs have them complete ACTIVITY PAGES 219 and 221.

47. BUSINESS, MARKETING AND MANAGEMENT (Cont'd)

KEY

	.01	.05	.10	.25	.50	1.00	5.00
1.	3	1		1	1	2	
2.	1	1		1			
3.	4	1	1		1	3	
4.	1		2				
5.	3		1		1	4	1
6.	3			1			
7.	3	1	1				
8.						2	
9.	4		2			2	1
10.	3	1	1	1			
11.	2		2				
12.	4		2	1			
13.	2		2	1		1	

ANSWERS B

14. 3¢
15. $3.01
16. One
17. $3.57
18. $16.10
19. $6.53
20. $6.22
21. $37.50
22. $7.43
23. $166.26

48. FIGURING PROFITS

Have your students be owners of a retail store. They must earn $200 profit daily in order to meet their expenses (rent, utilities, employees' salaries, etc.) as well as a salary for themselves. On a given day they each sold one of each of the following items:

ITEM	PRICE	PERCENT OF PROFIT	PROFIT
Stereo	$429.00	8	($34.32)
CB Radio	153.00	7	(10.71)
Tape Player	76.40	9	(6.88)
Color TV	579.00	14	(81.06)
Black & White TV	169.00	5	(8.45)
		TOTAL	($141.42)

Have your students figure the percent of profit on each item, find the profit for each, and the total profit for the day. Have they met their income requirements? (no)

Having sales is one way to bring customers into retail stores. Have your students cut advertisements for sales from your local newspaper. Make tables relating to discount prices, percent of discount, and regular prices, such as:

ITEM	PERCENTAGE DISCOUNT	REGULAR PRICE	SAVINGS	SALE PRICE

49. CREDIT CARD PAYMENTS

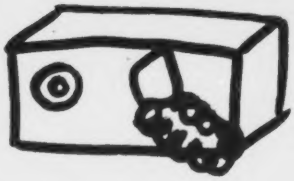
Your students have just used their credit cards to make purchases at a department store. Compute the interest charges and total financed price.

ITEM CHARGED	ITEM PRICE
CB Radio	$169.00
Portable TV	215.00
Bicycles	119.00
Tape Player	79.00

They pay a total of $225.00 at the end of the month when billed. If they continue to pay $50.00 a month on their bill, at a rate of 1½% interest per month, or 18% yearly, how long will it take to pay off the charges? (8 months) Have your students complete the chart below:

MO.	BALANCE DUE	INTEREST CHARGED	AMOUNT APPLIED TO PRINCIPAL	PAYMENT	NEW BALANCE
1.	$357.00	$5.36	$362.36	$50.00	$312.36
2.	(312.36)	(4.69)	(317.05)	(50.00)	(267.05)
3.	(267.05)	(4.01)	(271.06)	(50.00)	(221.06)
4.	(221.06)	(3.32)	(224.38)	(50.00)	(174.38)
5.	(174.38)	(2.62)	(177.00)	(50.00)	(127.00)
6.	(127.00)	(1.91)	(128.91)	(50.00)	(78.91)
7.	(78.91)	(1.18)	(80.09)	(50.00)	(30.09)
8.	(30.09)	(.45)	(30.54)	(30.54)	-----

Answers are in parentheses.



ACTIVITY PAGE

You have just gotten a job that requires you to travel. You have an expense allowance for travel, food, and lodging. At the end of each week you are reimbursed for the amount of money you are allowed. Sometimes you spend more than what your company allows. Below is an account of your expenses for one week. Find out if you spent more than what you were allowed.

	FOOD		TRAVEL		LODGING	
DAY	SPENT	ALLOWANCE	SPENT	ALLOWANCE	SPENT	ALLOWANCE
M	$13.60	$12.00	$17.60	$15.00	$17.60	$19.00
T	17.20	12.00	13.20	15.00	19.80	19.00
W	14.30	12.00	15.25	15.00	15.40	19.00
Th	7.60	12.00	19.00	15.00	16.70	19.00
F	10.20	12.00	7.00	15.00	25.90	19.00
TOTALS	______	______	______	______	______	______

TOTAL EXPENSES: ________

TOTAL ALLOWANCE: ________

How much more were the worker's expenses than the amount allowed?

______

ACTIVITY PAGE

Some workers are paid extra for the number of hours they work beyond their normal work day. The amount of extra time is called, "time-and-a-half" and "double time." Find out the weekly wages of the workers listed below:

EMPLOYEE	JOB	HOURLY WAGE	WAGES for 40 HOURS	OVER-TIME HOURS	1½x	SUNDAY RATE HOURS	2x	WEEKLY WAGE
1. Sue	Custodian	$2.47		7		6		
2. Bill	Secretary	2.65		2		0		
3. Jay	Chemist	6.25		3		5		
4. Cathy	Engineer	5.90		6		7		

You have just taken a job as the payroll clerk for your city. Compute the weekly pay for the following employees: (None of these employees receives overtime pay.)

NAME	JOB	WAGE PER HOUR	HOURS WORKED	PAY
5. John	Chemist	$5.24	35 hrs. 10 min.	?
6. Tom	Bookkeeper	2.65	40 hrs. 30 min.	?
7. Joe	Custodian	2.60	45 hrs. 15 min.	?
8. Sue	Cashier	2.73	?	$87.36
9. Carol	Purchasing Agent	2.98	30 hrs. 45 min.	?
10. Diane	Lab Technician	3.26	19 hrs. 40 min.	?
11. Connie	Data Processing	3.85	37 hrs. 20 min.	?
12. Ron	Inspector-Constr.	4.03	?	$169.26
13. Mike	Electrician	4.90	40 hrs. 15 min.	?
14. Dean	Secretary	3.18	?	$120.84

ACTIVITY PAGE

Would you make a good bus driver? Complete the following problems that a bus driver meets daily to help you find out.

1. According to law, a school bus with 18 double seats (seats in which 2 people can sit) is permitted to transport 54 pupils.

   If all seats are full, how many students are standing in the aisle if,

   a. There are 36 students on the bus? ____________
   b. There are 53 students on the bus? ____________
   c. There are 37 students on the bus? ____________
   d. There are 46 students on the bus? ____________

2. The standard charge for school bus transportantion is 30¢ per kilometer.

   a. How much will it cost a group hiring your bus to go:
      a. 266 kilometers ____________
      b. 121½ kilometers ____________
      c. 79 kilometers ____________
      d. 425 kilometers ____________

   b. If the group hiring the bus wants to share the cost equally among the passengers on the bus, how much would each have to pay to go 178 kilometers if:
      a. There were 38 passengers sharing the cost? ________
      b. There were 50 passengers sharing the cost? ________
      c. There were 15 passengers sharing the cost? ________

3. Except for emergencies, the law permits a bus driver or truck driver to drive only 12 hours in a 24 hour period. Complete the following bus driver's log assuming that the driver drives 12 hours each 24 hour period. The driver stops one hour for lunch (12:00-1:00) and one hour for dinner (5:30-6:30) each day.

Date	Total kilometers to be traveled during the trip	Avg. kilometers traveled each hour	Time trip started	Time driver must stop driving	Kilometers traveled today	Kilometer remaining to be traveled
July 1	1200	55	6:53a.m.	--	--	--
July 2		35	8:08a.m.	--	--	--
July 3		40	10:38a.m.	--	--	--
Aug. 8	3876	55	6:43a.m.	--	--	--
Aug. 9		53	10:00a.m.	--	--	--
Aug. 10		50	11:26a.m.	--	--	--
Aug 11		49	7:30a.m.	--	--	--

(Cont'd)

4. For the next three weeks you are going to be driving a bus from Frostburg, Maryland to Yellowstone National Park, Wyoming. Using the information given, complete the following chart.

State	Odometer reading when entering state	Odometer reading when leaving state	Kilometers traveled in this state	Total kilometers traveled to date
Maryland	18,219	18,232		
Pennsylvania	18,232	18,342		
Ohio	18,342	18,550		
Indiana	18,550	18,665		
Illinois	18,665	18,862		
Missouri	18,862	19,118		
Kansas	19,118	19,408		
Colorado	19,408	19,828		
Wyoming	19,828	19,921		

ACTIVITY PAGE

COMPUTING SPORTS STATISTICS

1. Last year, Pete Rose had 215 hits in 665 times at bat. What was his batting average for the year? ____________________

2. Included in Pete Rose's 1976 total hits were 10 homeruns, 6 triples, 42 doubles, and 157 singles. Find what percent of his hits were homeruns, triples, doubles, and singles. Give each answer to the nearest whole percent.

   a. Homeruns ________ c. Doubles __________

   b. Triples _________ d. Singles __________

3. Total attendance at Ohio State football games one year was 730,552 fans for eight games. What was the average attendance per game? ____________

4. O.J. Simpson can run 100 yards in 10.8 seconds. How many yards can he run in one second? (Give answer to the nearest yard) ______________________

5. If a football team gained 117 yards passing and 216 yards running, but was penalized 85 yards. How many net yards did the team gain for the game?

   ____

6. Attendance at each of McTigue's football games was 324, 275, 487, and 404. What was the average attendance per game?____________________________

7. If McTigue's basketball team won 3 of their first 4 games, how many games would they win if they continue at their present rate if there are 24 games in a season?______________________

8. If the McTigue basketball team was successful on 30% of 50 field goal attempts, and 60% of 15 foul shot attempts. How many points would they have for the game? (Each field goal is worth 2 points and a foul shot is 1 point)____________________

9. A bowling team consists of 5 players. If each player is charged 55¢ per game, what is the cost, per player, for three games and what is the cost for the entire team for three games?

   a. Each player ___________ b. Entire team ____________

10. What is the team average of a bowling team whose players recorded the following scores for one game: Joe, 187; Bill, 153; John, 132; Alan, 97; Dave, 161. ________________________

11. What is the total number of points the team above will score in a three game match if they continue at their present rate.

    ____

ACTIVITY PAGE

The following puzzle contains 39 career fields that require a knowledge of mathemetics. Circle as many as you can find. How do the people in these fields use math skills?

I	N	D	U	S	T	R	I	A	L	D	E	S	I	G	N	M	P	S	I
A	B	C	D	E	F	P	P	O	S	T	O	F	F	I	C	E	L	A	J
K	M	N	N	O	M	O	O	S	P	Q	R	S	T	U	V	C	A	L	W
B	I	L	L	C	O	L	L	E	C	T	I	N	G	H	C	H	S	E	U
O	U	X	Y	Z	L	I	I	L	G	Q	D	E	F	A	A	A	T	S	N
A	H	Y	R	B	D	T	C	L	B	U	Y	I	N	G	D	N	E	C	D
T	O	H	I	P	I	I	E	I	C	E	H	B	F	S	R	I	R	L	E
B	F	H	O	N	N	C	C	N	R	A	V	E	L	G	U	C	I	E	R
U	I	D	E	A	G	S	B	G	U	I	D	A	N	C	E	S	N	R	T
I	N	S	U	R	A	N	C	E	P	R	I	N	T	I	N	G	G	K	A
L	A	N	D	S	C	A	P	I	N	G	C	D	E	F	G	H	J	I	K
D	K	M	N	O	L	H	P	H	O	T	O	G	R	A	P	H	Y	N	I
I	N	T	E	R	I	O	R	D	E	C	O	R	A	T	I	O	N	G	N
N	P	E	P	E	Q	M	A	I	R	O	S	T	W	E	L	D	I	N	G
G	H	L	U	A	V	E	D	E	W	N	X	Z	Y	A	A	N	D	E	R
P	A	E	P	L	A	E	I	S	U	D	L	A	S	C	M	C	H	T	H
L	R	G	S	E	R	C	O	E	H	U	G	C	D	H	F	B	C	A	E
U	M	R	T	S	R	O	T	T	E	C	E	P	A	I	N	T	I	N	G
M	A	A	S	T	Q	N	E	T	A	T	I	J	Q	N	D	O	N	E	L
B	C	P	P	A	S	O	C	I	G	I	F	O	R	G	I	N	G	A	V
I	Y	H	E	T	R	M	H	N	F	N	C	X	S	A	F	B	H	R	I
N	G	Y	A	E	B	Y	N	G	R	G	E	O	L	O	G	Y	S	O	N
G	S	P	O	R	T	S	O	C	I	A	L	W	O	R	K	P	T	S	E
J	E	W	E	L	R	Y	L	A	W	A	T	C	H	M	A	K	I	N	G
A	M	I	S	T	T	O	O	L	A	N	D	D	I	E	R	E	C	O	N
A	S	T	C	L	E	R	G	Y	S	T	E	N	O	G	R	A	P	H	Y

Boatbuilding
Buying
Bill Collecting
Clergy
Conducting
Die Setting
Forging
Geology
Guidance
Home Economy
Industrial Design
Insurance
Interior Decoration

Jewelry
Landscaping
Law
Mechanics
Molding
Painting
Pharmacy
Photography
Plastering
Plumbing
Police
Politics
Post Office

Printing
Real Estate
Salesclerking
Selling
Social Work
Sports
Stenography
Teaching
Telegraph
Tool and Die
Undertaking
Watchmaking
Welding

ACTIVITY PAGE

The following puzzle contains 37 career fields that require knowledge of Algebra. Circle as many as you can find.

Look vertically, horizontally, diagonally and around the corners. Some are in two words.

R	E	G	I	S	T	E	R	E	D	N	U	R	S	I	N	G	O	P	F
A	N	T	H	O	B	E	C	A	R	T	O	G	R	A	P	H	Y	P	O
D	G	O	B	C	H	B	O	T	A	N	Y	C	A	I	O	G	H	H	R
I	I	N	C	I	J	O	H	E	F	G	E	A	D	R	A	D	E	A	E
O	B	B	A	C	C	O	U	N	T	I	N	G	G	C	A	E	L	R	S
O	A	O	N	S	H	A	N	G	I	O	N	E	A	R	T	C	M	M	T
P	C	T	T	A	T	Z	Z	O	N	I	N	O	S	A	O	O	O	A	R
E	H	S	H	E	P	R	O	C	G	F	C	L	T	F	M	N	R	C	Y
R	E	U	R	U	O	O	O	G	H	P	A	O	A	T	I	A	O	Y	P
A	F	R	O	P	H	I	L	N	A	V	I	G	T	M	C	L	M	M	S
T	C	V	P	O	J	H	O	B	O	T	R	Y	I	E	S	G	E	A	Y
I	A	E	O	L	O	J	G	O	H	M	M	J	S	C	C	E	A	R	C
O	R	Y	L	I	B	M	Y	V	A	F	Y	O	T	H	I	B	R	C	H
N	P	I	O	T	A	E	D	T	V	A	S	T	I	A	E	R	S	H	I
H	E	N	G	I	N	E	E	R	I	N	G	N	C	N	N	A	H	I	A
M	N	G	Y	C	A	C	N	O	A	P	H	Y	S	I	C	S	I	T	T
A	T	I	S	A	L	O	T	C	T	E	D	T	R	C	E	D	P	E	R
T	R	L	C	L	O	L	I	G	I	E	M	O	E	S	T	R	P	C	Y
H	Y	E	L	S	G	O	S	S	O	C	I	O	L	O	G	Y	I	T	G
E	M	A	T	C	Y	G	T	F	N	P	Q	L	R	A	C	K	N	U	O
J	A	C	O	I	N	Y	R	E	D	I	E	M	A	K	I	N	G	R	L
A	I	R	B	E	N	O	Y	N	P	T	E	A	C	H	I	N	G	E	O
O	C	E	A	N	O	G	R	A	P	H	Y	K	U	A	O	C	H	I	N
B	C	A	O	C	H	I	E	O	N	A	V	I	G	A	T	I	O	N	H
A	O	C	H	E	M	I	S	T	R	Y	A	N	D	E	R	O	C	H	C
N	A	B	A	C	T	E	R	I	O	L	O	G	Y	X	R	A	Y	T	E

Accounting
Agronomy
Aircraft Mechanics
Anthropology
Artchitecture
Astronomy
Atomic Science
Aviation
Bacteriology
Botany
Cartography
Chemistry

Carpentry
Dentistry
Drafting
Ecology
Engineering
Forestry
Geology
Job Analogy
Navigation
Registered Nursing
Oceanography
Pharmacy

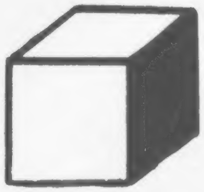
Physics
Political Science
Psychiatry
Radio Operation
Shipping
Sociology
Statistics
Surveying
Teaching
Tool Making
Die Making
X-Ray Technology
Zoology

ACTIVITY PAGE

MEASUREMENTS

WIRE SEGMENT

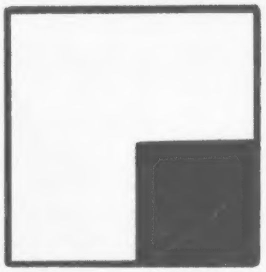
CARDBOARD SQUARE



BLOCK

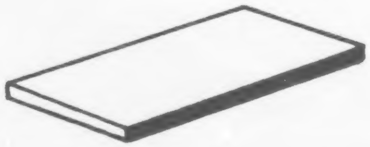
It is sometimes necessary to estimate the length or area of an object. Many items can be used to do this. A piece of wire, a cardboard square, and a block can be used in finding length, area, and volume, respectively. Segments and squares are used almost exclusively to find length and area; however, cubes are not exclusive units for volume. (Cups, ounces, pints, etc. could also be used.)

1. An interior decorator wanted to measure a bedroom mirror for a customer but didn't have a ruler, so a cardboard square was used. What could be told about the size of the mirror?______________________________



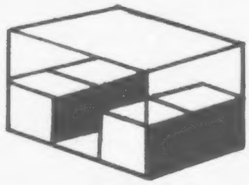
2. A carpenter wanted to measure the length of a piece of wood but didn't have a measuring tape. So the carpenter used a piece of wire. What could be said about the length of the board?________________

   ____



3. A student purchased a new aquarium and used a block to tell how much space was in the aquarium. How many blocks do you think it would take to fill the aquarium?

   ____



MEASUREMENTS

(Cont'd)

4. Which object (a wire, a cardboard square, or a block) would be best to use if you needed a unit of measure to find:

   a. How tall a lamp is?________________

   b. How much sand a box holds?________________

   c. How much paper we need to buy to cover a bulletin board?__________

   d. How much space is inside a boxcar?______________

   e. How large a garden is?_______________

   f. How far it is from home plate to first base?______________

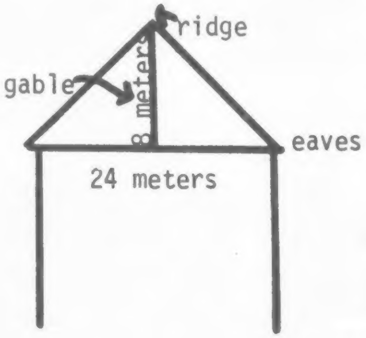
   g. How much glass is in the window?______________

   h. How much a drawer will hold?_______________

   i. How large the desk top is?_______________

5. A living room is 21 meters long and 9.5 meters wide. How many meters of picture molding are needed to go around the room just below the ceiling?________________

6. The sketch at the right shows the gable of a barn, a gable being the vertical triangular portion of the end of a building from the eaves to the ridge of the roof. Using the dimensions used in the sketch, find the area of the gable.________________



MEASUREMENTS

(Cont'd)

7. Find the total number of square meters in the gables at both ends of a house that is 28 meters wide, with a ridge of 10 meters above the eaves?____________________

8. At a scale of 0.5 cm = 25 cm, how long a line should you draw to represent a wall 25 meters long?____________________

9. Mr. Washington makes concrete sidewalks. He starts with a form 10 cm high, like a box but without a top and bottom. Then he fills the form with cement, removing it when the cement has hardened. Mr. Washington uses lumber 10 cm high for his forms.

    a. How many meters of lumber are needed to build a form 10 cm high by 4 meters wide and 12 meters long?____________________

    b. How many meters of lumber are needed to build a form exactly 1 meter by 2 meters?____________________

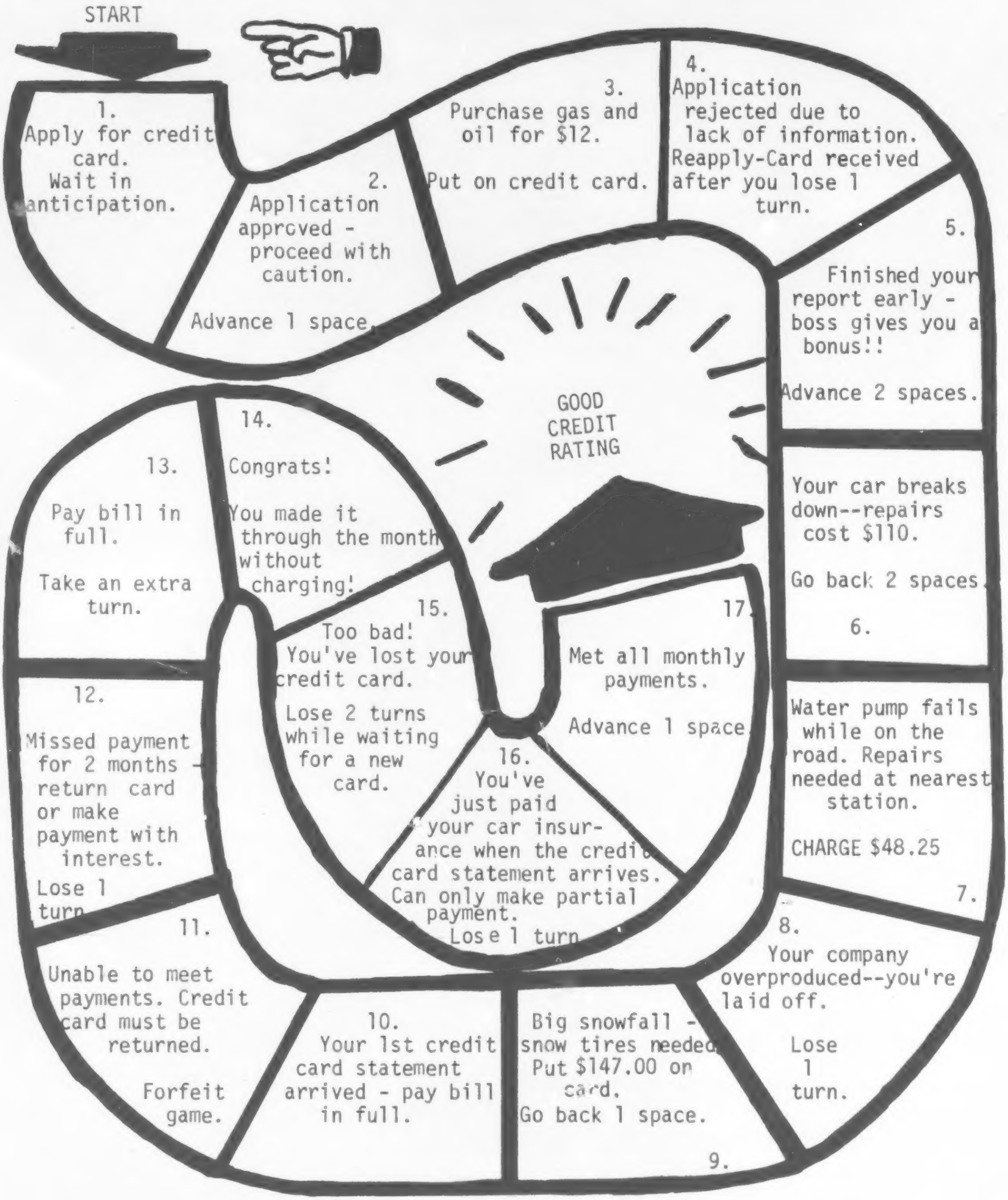
    c. How many centimeters of lumber are needed to build a form that is 42 cm by 72 cm?____________________

10. At $4.50 a square meter, what will be the cost of laying a cement floor in a garage that is 16 meters long and 7 meters wide?____________________

11. A driveway 16 meters long and 3 meters wide is to be covered with a 10 cm layer of crushed stone. How many cubic yards of crushed stone will be needed?____________________

12. Find the cost, at 85¢ a square meter, for painting the two gables of a house 12 meters wide, the height of the ridge above the eaves being 4 meters?____________________

CHARGE!



1. Apply for credit card. Wait in anticipation.

2. Application approved - proceed with caution. Advance 1 space.

3. Purchase gas and oil for $12. Put on credit card.

4. Application rejected due to lack of information. Reapply-Card received after you lose 1 turn.

5. Finished your report early - boss gives you a bonus!! Advance 2 spaces.

6. Your car breaks down--repairs cost $110. Go back 2 spaces.

7. Water pump fails while on the road. Repairs needed at nearest station. CHARGE $48.25

8. Your company overproduced--you're laid off. Lose 1 turn.

9. Big snowfall - snow tires needed. Put $147.00 on card. Go back 1 space.

10. Your 1st credit card statement arrived - pay bill in full.

11. Unable to meet payments. Credit card must be returned. Forfeit game.

12. Missed payment for 2 months - return card or make payment with interest. Lose 1 turn.

13. Pay bill in full. Take an extra turn.

14. Congrats! You made it through the month without charging!

15. Too bad! You've lost your credit card. Lose 2 turns while waiting for a new card.

16. You've just paid your car insurance when the credit card statement arrives. Can only make partial payment. Lose 1 turn.

17. Met all monthly payments. Advance 1 space.

ACTIVITY PAGE

MATH
SPRINGBOARD NO. 45

ACTIVITY PAGE

Use as few coins as possible to make change for the customer. Enter number of coins and bills only.

TOTAL COST	AMOUNT GIVEN TO CASHIER	CHANGE						
		.01	.05	.10	.25	.50	$1.00	$5.00
1. $2.17	5.00							
2. $ .19	.50							
3. $1.31	5.00							
4. $ .79	1.00							
5. $ .37	10.00							
6. $ .22	.50							
7. $7.57	7.75							
8. $3.03	5.03							
9. $2.76	10.00							
10. $1.57	2.00							
11. $ .53	.75							
12. $2.01	2.50							
13. $8.53	10.00							

Cashiers are to do more than run a cash register. They must do various kinds of arithmetic problems, such as these:

14. A customer hands you 7 half dollars, 18 quarters, 5 dimes, 14 nickels and 28 pennies. She purchases an item for $9.45. How much change does the customer receive?

15. A customer brings in 5 half-dollars, 7 quarters, 27 dimes, 3 nickels and 87 pennies. How much more does the customer need to purchase an item costing $10.98?

MATH
SPRINGBOARD NO. 47

(Cont'd)

16. Shirts sell 3 for $9.98. A customer has 5 dollars. How many can the customer buy?

17. A customer has 3 items on lay-away. The items cost $3.98, $6.47, and $15.98. The customer already has put $10.00 down to hold the items. Now the customer wants to get them out of lay-away and hands you a twenty dollar bill. What is the customer's change?

18. A customer brings in an item costing $5.98 to exchange for one costing $9.88 and hands you a twenty dollar bill. What is the customer's change?

19. A customer gives you 3 ten dollar bills for 2 items costing $15.98 and $7.49. What will the change be?

20. Shirts are selling for 3 for $9.33. A customer wants to buy 2. What will be the cost?

21. Shirts selling for $10.00 each are marked 25% off. How much money does a customer need to buy five shirts?

22. A customer exchanged 3 items costing $1.98, $6.98 and $10.39, and buys 2 items costing $15.97 and $5.95. What is the customer's change from a ten dollar bill?

23. A customer bought 6 items costing $10.98, $12.98, $5.50, $2.96, and $27.35 and $106.49. What is the total bill?

SCIENCE
SPRINGBOARDS

GENERAL

1. LET'S TAKE A CLASS POLL

Using this questionnaire take a poll of class members.

1. When I am out of school I would like to have a job working as a ____________________.
   (Job Title)
2. In this job I would mostly use: (Check One)

_____Math

_____Science

_____Language arts

_____Music

_____Business

_____Health

_____Art

_____Physical education

_____Social studies

_____Industrial arts

_____Home economics

Make a list showing all the occupational choices for item #1. Tabulate the results of #2 and make a graph showing the number of students who checked each subject area and the number of males and females selecting each subject category.

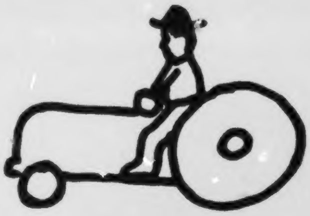
Discuss findings. What subject areas interest the most males? Why? How can a change come about so that more girls will be interested in jobs relating to science, and more males be interested in jobs centering around home economics? How are attitudes formed so that one job area has mostly male workers and another mostly female workers? What changes in occupational choices have taken place in the last ten years? What jobs are now opening for men that were once considered strictly female jobs? Which jobs, once dominated

1. LET'S TAKE A CLASS POLL (Cont'd)

by males, are now becoming available for females? How do you see the future?

2. NO FARMERS FOR SIX MONTHS?

To help students realize just how many careers are available in the science area, give them five or ten minutes to list as many jobs as they can. Compile a master list. As you survey the master list, more careers will come to mind. What are some basic qualifications common to these science careers? What roles do these careers play in our everyday life? What would happen if all workers with science-related careers went on strike at the same time for six months? Could society ever recover? Find out which of your students are interested in science-related occupations.



3. MAKING A "SCIENTIST REPORT"

Using the list below, have students choose one scientist, discover where and when the scientist lived, and identify the contribution he/she made to the scientific world. Perhaps the reports could be illustrated and displayed in chronological order making a science time line. It will become very evident that women scientists were almost unheard of for many years. What can be done to encourage more women to enter the scientific world?

SCIENTISTS

Irene Joliot-Curie
Marie Curie
Andre Ampere
Fredick Banting
Niels Bohr
Margaret Burbidge
Vannevar Bush
Jacelyn Bell-Burnell
Victor and Fanny Hesse

Leslie Groves
William Harvey
Charles Martin Hall
Joseph Henry
Paul Herault
Heinrich Hertz
Edmund Hillary
Dorothy Crowfoot Hodgkin

Mary Pennington
Raymond Pearl
Joseph Priestly
Albert Sabin
Jonas Salk
Walter Schirra
Gherman Titon
Harold Urey
Wilhelm Konrad Roentgen

3. MAKING A "SCIENTIST REPORT" (Cont'd)

SCIENTISTS

P.W. Bridgmen
Alenes Carrell
James Chadwick
Edwin J. Cohn
Arthur Compton
James Conant
Nicolaus Copernicus
Maria Geoppert-Mayer
Charles Darwin
Duryea Brothers
Christian Eykman
Atoll Enwetak
Dmitre Mendeleyev
Herman Frasch
Inge Lehman
William Murdock
Yuri Gagarin
Helen Sawyer Hogg
William Gilbert
Wilbur & Orville Wright
Hermann Oberth

David Hughes
William James
Johannes Keper
Robert Koch
Ernest Lawrence
James Land
Albert Einstein
Lise Meitner
Gregor Mendel
Benjamin Franklin
Samuel F.B. Morse
Robert Fulton
Isaac Newton
Luigi Galvani
Nikolaus Otto
Ivan Pavlov
Archimedes
Louis Pasteur
Max Planck
Hippocrates
Charles Parsons

Bernard Vonnegut
James Watt
G.F. White
August Weismann
Robert Woodward
John Lubbock
Guglielm Marconi
John Enders
Alexander Fleming
Albert Michelson
O.R. Frisch
Eadweard Muybridge
Galileo
Hans Oersted
Joseph Goldberger
Stephen Gray
Aristotle
L. daVenci
Gerty Cori
Ellen Swallow Richards
Dame Kathleen Lonsdale

4. CAREER INFORMATION IN A BOX

Have each of your students research one job area for which a knowledge of science is necessary. The students are to interview a worker, research possible jobs, and gather pamphlets, books, and other information about the career as well as any tools that that worker might use. Designate one day when the boxes are to be completed and have the students display them. Invite other classes, as well as the community, to your Science Career Day Fair.

Credit - #12

SCIENCE
CAREER
DAY FAIR

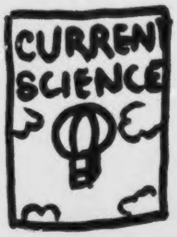
5. GET YOUR SCIENCE GAZETTE RIGHT HERE

Provide a list of science concepts that you want students to know. Have each of them choose one concept to write about. In their own words they are to explain the concept as if it were a newly discovered scientific fact. Compile the articles and make a newspaper. Check for accuracy of facts. Such a newspaper is an excellent way to reinforce concepts. Encourage the students to be creative and illustrate their articles. One example might be:

"Scientist Discovers Expansion Qualities of Steam"

The amazing fact that steam has power was discovered in the laboratory of Dr. Harriet Power last week. Dr. Power placed 3 centimeters of water in a flask and, using a one-holed stopper in the neck of the flask, she inserted one end of a piece of glass tubing through the stopper. A smaller one-holed stopper was placed on the other end of the glass tubing. Dr. Power then stretched the neck of a rubber balloon over the small rubber stopper and, using tongs to hold the flask, a source of heat was used to cause the water to boil. When the water boiled, just as Dr. Power had thought, the balloon began to inflate. Dr. Power has proven that molecules of a gas have more space between then than do molecules of a liquid, and since steam occupies more space than the same amount of water, these molecules had to have more room which they found by forcing the balloon to inflate.

Dr. Power has made an amazing discovery and plans to do further work to determine the types of work that can be accomplished with the kinetic energy of expanding steam.



6. OBSERVE WORKERS IN ACTION

Plan a field trip to a local chemical company or other work site where students are able to observe workers using science concepts as job skills. Have the students each choose one such skill, and when they return to class, prepare reports citing scientific explanations of the concepts. The students should also state why it is important to have a proficiency knowledge of that concept as well as related concepts (e.g., safety, a good product, speed in production, etc.).

7. TODAY I AM .... TOMORROW I HOPE TO BE ....

Have each student write a two part resumé stating:

1. Current job aspirations, skills, experiences, and training.
2. Projected job aspirations, including skills and training that would qualify them for the occupations they seek.

An additional activity might be to have them compile a portfolio of information on a science career. Display for Open House.

8. A SCIENCE TEXTBOOK SEARCHED

Working in pairs have your students go through their science textbooks to look for science related jobs. For each job they must have a page reference as proof. These can be jobs either directly or indirectly influenced by science. It will be interesting to note the different occupational titles which students will give to various jobs. This is a good way to introduce the textbook at the beginning of the year to get students to look beyond the first page.

ELECTROMAGNETISM

9. AN ELECTROMAGNET COLLAGE

A simple electromagnet consists of a coil of wire wrapped around an iron core, such as a nail. Electromagnets are used in such items as:

1. Household appliances
2. Industrial machines
3. Demolition cranes
4. Cranes for moving large pieces of iron or steel in factories and junk yards
5. Doorbells
6. Telephone receivers
7. Telegraph instruments
8. Relay switches

9. AN ELECTROMAGNET COLLAGE (Cont'd)

Have students research electromagnets and name as many as they can. Illustrating makes remembering easier so gather pictures of electromagnets and make a bulletin board collage. Along the outside of the display name workers who operate electromagnets daily.

10. ELECTRICAL CURRENTS ARE IMPORTANT TO MANY WORKERS

Michael Faraday, an English scientist, discovered that electricity can be produced from magnetism. He invented the dynamo which is a coil of wire spinning rapidly between the poles of a magnet. The flow of electrons changes direction because of the magnetic lines of force which cut across the coils of wire in opposite directions. Thus, an alternating current is induced in the whirling coil.

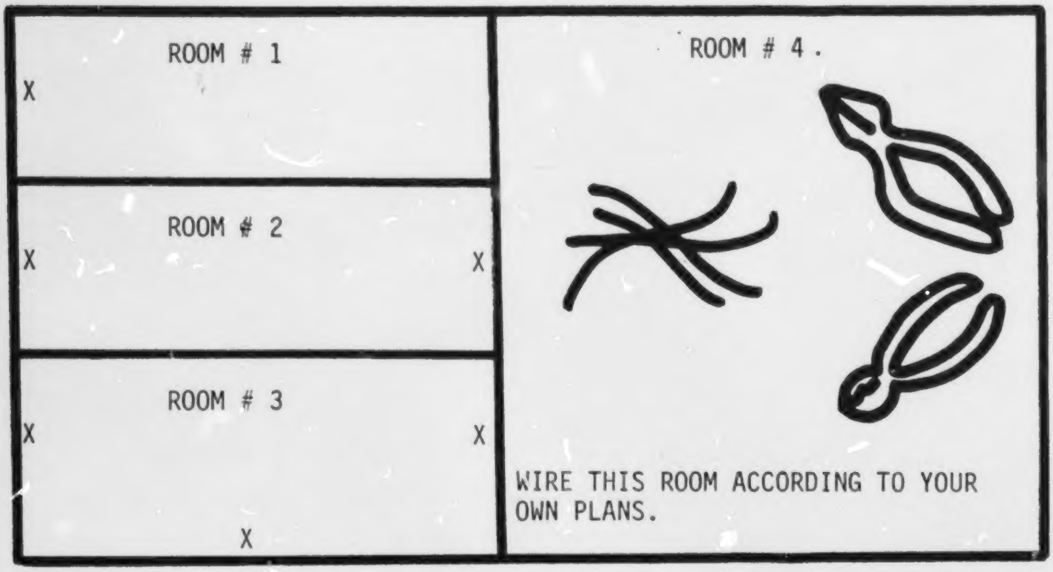
Name workers who must understand and use this principle of electricity in their everyday work (e.g., appliance manufacturers and repairpersons, electricians, power line workers, electrical generator workers, electric engine manufacturers, and repairpersons, etc.). Gather pictures of scientists, information about electrical currents, as well as illustrations of power uses to show both the importance of a knowledge of electrical currents and related jobs. Your local electric power company might be a good resource.

11. LIGHT THE LIGHT

Have your students construct a model house using 1 cm plywood. Adjust the overall dimensions of the model to your particular classroom needs.

11. LIGHT THE LIGHT (Cont'd)

MODEL



X = Receptacles or Light Switches

Provide materials and have your students wire the house according to specific directions, such as:

1. Room #1 -- Using 1 socket, 1 battery, and 2 wires, wire a simple circuit.
   Room #2 -- Using 2 sockets, 1 battery, and 3 wires, wire a series circuit.
   Room #3 -- Using 3 sockets, 1 battery, and 5 wires, wire a parallel series circuit.
2. Using the scale 1 cm = 1 m estimate the amount of wire that you will need to wire each of the rooms. (Remember, you must place the socket at a location which you have chosen, and allow some extra wire to go to the breaker in the control panel which is usually located in the basement of houses.) After you have completed wiring the room, check to see how accurate your estimate is to the actual amount of wire needed.
3. Wire the entire house using parallel series circuits in every room. Estimate the amount of wire needed if each room has one socket. Does each circuit work? If not, locate the problem and correct the situation.

11. LIGHT THE LIGHT (Cont'd)

As an additional activity examine the circuiting in everyday machines, such as a fan, radio, refrigerator, telephone, TV, copy machine, and perhaps even a computer.

EARTH/SPACE

12. THAT SOIL REALLY IS CLODDY

Obtain two cans exactly the same size, two 18 inch squares of cloth, some heavy string, a scale that weighs up to 64 ounces or 2,000 grams, and a container of water. Get some hard cloddy soil and some loose crumbly top soil.

Put equal amounts of the dry soils into the cloths and tie with string. Weigh and record the weights. (They should be the same.) Put both bags into the cans of water and saturate thoroughly. Remove them from the water and let the soil bags drain for a few minutes. Then weigh again and record the amounts. Which holds the moisture better? What other properties of soil are workers concerned with? What workers are concerned with soil properties (e.g., agronomists, farmers, soil testers, fertilizer manufacturers, etc.)?

13. WHAT IS SPACE?

Space is not completely empty but it is more empty (contains less matter) than the best vacuum man can produce. There are particles of gas and dust but these are far apart -- so far apart that one particle might travel one million miles without bumping into another particle. But even so, space is so large that all of these particles make up an enormous amount of matter.

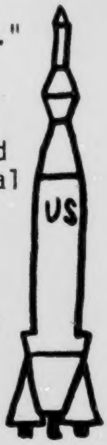
No one knows how far space extends or even if it ever ends. Rockets have been used to explore space since before 1900. Find out who these scientists were and what they did to increase our knowledge of space:

13. WHAT IS SPACE? (Cont'd)

1. Robert Hutchins Goddard -- (1908 American physicist who studied German & Russian rocket designs for life saving equipment on ships)
2. Hermann Ganswindt -- (1859 German law student developed plans for rocket propulsion for space travel)
3. Konstantin E. Ziolkovsky -- (1895 Russian school teacher made plans for a rocket propelled aircraft)
4. Jules Verne -- (1865 author who dreamed of flights to the moon)
5. Herman Oberth -- (early 1900's author who imagined a large rocket with small landing rockets as orbiting the earth)
6. Dr. Wernher Von Braun -- (before 1942 noted German space scientist, conceived the idea of the German V-2 rocket)

Look at this statement: "Teamwork of scientists and technologists has made possible the explorations of space."

Going back to when the idea was conceived, name all the workers who were involved in placing a man on the moon (e.g., physicists, rocket designers and engineers, metal designers, fuel developers, space food inventors, etc.). Tell how each worker and each development was vital to the success of the scientific accomplishment.

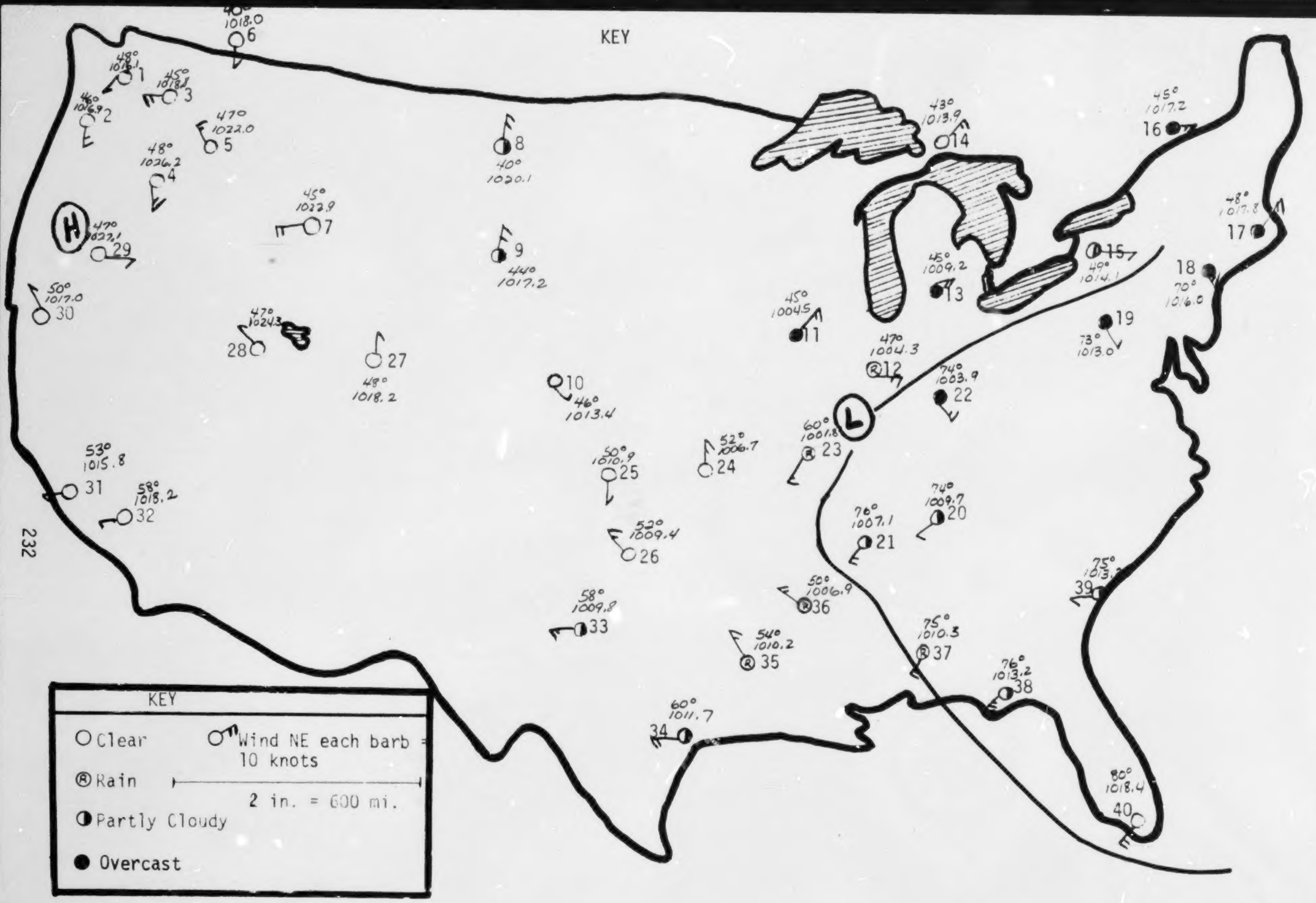


14. WHERE DID YOU SAY THE "HIGH" SHOULD BE?

During the time you are studying weather in class, discuss the job of the meteorologist. How much does the job pay and what are the educational requirements? Where can one go to school and receive training to be a meteorologist? Let all the students in your class test their meteorological interests by doing ACTIVITY PAGES 251 and 253.

On the map of the United States, PAGE 253 and using the information on 251 the student is to record and interpret the weather information given.

KEY


40° 1018.0 6
48° 1018.1 1
45° 1018.2 3
46° 1016.9 2
47° 1022.0 5
48° 1026.2 4
H
47° 1027.1 29
45° 1022.9 7
8 40° 1020.1
9 44° 1017.2
50° 1017.0 30
47° 1024.3 28
27 48° 1018.2
10 46° 1013.4
53° 1015.8 31
58° 1018.2 32
50° 1010.9 25
52° 1006.7 24
52° 1009.4 26
58° 1009.8 33
54° 1010.2 35
50° 1006.9 36
60° 1011.7 34
60° 1001.8 23
L
45° 1004.5 11
47° 1004.3 12
45° 1009.2 13
43° 1013.9 14
15 40° 1014.1
45° 1017.2 16
48° 1017.8 17
18 70° 1016.0
19 73° 1013.0
74° 1003.9 22
74° 1009.7 20
76° 1007.1 21
75° 1010.3 37
76° 1013.2 38
75° 1013.2 39
80° 1018.4 40
KEY
○ Clear
® Rain
◑ Partly Cloudy
● Overcast
Wind NE each barb = 10 knots
2 in. = 600 mi.

14. WHERE DID YOU SAY THE "HIGH" SHOULD BE? (Cont'd)

Follow the steps given on the handout.

KEY #7

	Skies	Temp
a. Today -		70
b. Tomorrow -		around 45-50
c. The next day -		around 45-50
d. The next day -		around 45-50
e. The next day -		around 45-50

HEAT

15. AN ENGINE PUTS HEAT TO WORK

Use ACTIVITY PAGE 255 to identify and describe parts of a gasoline engine which change heat energy into mechanical energy to produce motion. What workers are concerned with the performance of an engine (e.g., engine manufacturers, petroleum refinery workers, auto mechanics, etc.).

KEY

1. i
2. e
3. f
4. h
5. c
6. b
7. n
8. l
9. j
10. d
11. a
12. g
13. m
14. k

Two occupations 3 10

16. WHAT WRECKED THE TRAIN?

One of the world's fastest trains was speeding across country on a hot day in mid-August. It came to an arch bridge with trusses. Without any apparent reason, the train left the tracks and cars were tossed hither and yon. There had been no reason to apply the brakes and nothing was blocking the tracks. What may have caused the derailment? (The heat could have explanded the rails so that space left between them was not enough to let them lie flat. The pounding of the wheels may have even increased the temperature. The rails buckled.) What workers, beside railroad track manufacturers are concerned and must know about expansion and contraction qualities due to heat and cold (e.g., road builders, power line installers, building contractors, missile casing engineers, tire manufacturers, bridge builders, packaging designers.)?

17. CALORIE WITH A BIG "C" OR A LITTLE "c"?

In the first column, look at the terms related to heat. Define the words. Name two workers who are involved in their work with each term.

KEY

TERM	DEFINITION	WORKERS (Many others)
1. Absolute Zero	Temperature at which all molecular motion ceases. $-273^{\circ}C$ or $-459^{\circ}F$	Chemist Scientist
2. B.T.U.	Amount of heat needed to raise the temperature of one pound of water $1^{\circ}F$.	Air Conditioner Engineer, Furnance Manufacturer
3. Boiling Point	Temperature at which all parts of a liquid change to a gas.	Smelter Molder
4. Calorie	The amount of heat needed to raise the temperature of 1,000 grams of water $1^{\circ}C$. (Large Calorie)	Dietician Food Analyst
5. calorie	The amount of heat needed to raise the temperature of 1 gram of water $1^{\circ}C$. (Small calorie)	Metal Tester Space Engineer
6. Calorimeter	A device used to measure the quantity of heat in a substance.	Food Analyst Nutritionist

17. CALORIE WITH A BIG "C" OR A LITTLE "c"? (Cont'd)

7. Combustion	A form of oxidation during which heat and light are released.	Diesel Engine Mechanic, Fire Fighter
8. Evaporation	The change of the surface molecules of a liquid to a gas.	Rainmaker, Athletic Trainer
9. Freezing point	The temperature at which a liquid changes to a solid.	Frozen Food Processor, Fruit Farmer
10. Heat	The vibration of molecules; a form of energy.	Home Owner, Installation Manufacturer
11. Kinetic theory of heat	The energy of a body that is in motion.	Scientist, Chemist
12. Kindling temperature	The temperature at which a substance ignites.	Engine Designer, Barbecue Fuel Manufacturer.
13. Melting point	The temperature at which a solid changes to a liquid.	Glass Blower Caster
14. Radiant heat	Form of heat traveling through space.	Car Painter, Chiropractor
15. Temperature	Measure of heat intensity. Measure of the average kinetic energy of the molecules of a body.	Doctor Cook

CALORIE

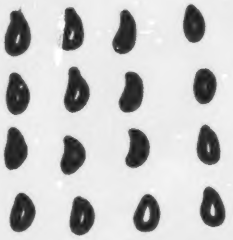
18. WEATHER FORECASTERS FORM JUDGEMENTS

Make comparisons between weather forecasting and predicting the behavior of individuals. On what basis does a weather forecaster form judgements (air pressure, wind currents, weather reports from other stations, satellite reports, observation)? To forecast how a person will achieve in school, on a job, or in life, one would perhaps look at present reports, observe outside influences, check information from other sources, and observe behavior in various places. How accurate can these forecasts be? What good are such forecasts? How reliable are they?

A whole different phase is to predict the behavior of groups of people according to weather conditions. Do people behave differently when the weather changes suddenly? How does changing weather conditions affect you, your friends, your family, and the working ability of people you know?

18. WEATHER FORECASTERS FORM JUDGEMENTS (Cont'd)

Does the temperature in homes, hospitals, factories, etc. affect the production of workers? What temperature is optimum? Does air conditioning increase production of workers in factories during the hot months?



19. A DEVICE CHANGES THE TEMPERATURE

There is a temperature controlled suit available which provides for the wearer a constant temperature of 80° even when the outside temperature goes as low as -40°F (-40°C) or as high as 135°F (74°C). A temperature sensitive device inside the suit responds to temperature changes. Air is warmed or cooled and then circulated throughout the suit by a large fan attached to the back of the suit. The suit is operated by batteries which makes it completely portable. Discuss jobs which could be done more effectively and efficiently by having the worker use the suit (e.g., astronauts, smelter workers, frozen food warehouse workers, snow rescue teams, Alaskan pipeline workers).

20. "COLD" IS REALLY THE ABSENCE OF HEAT

The present theory of heat is that what we call "cold" is really the absence of heat or heat leaving the object. Divide the class into groups of five or six students. Have each group name as many occupations as they can where the worker is concerned with knowing the properties of heat and the consequences of heat leaving a substance. After ten minutes, collect the lists and declare the group having the most occupations the winner. (Some groups may not only think of common occupations like stove manufacturers, insullation manufacturers, thermal glass manufacturers, and building contractors, but they will also include more obscure jobs such as: freezing a body-part during surgery, freeze-dried products, and effects of weather on crops and animals .)

MATTER/ATOMS

21. BEEF BULLION HAS DISODIUM GUANYLATE

Bring labels from containers in the kitchen, the cleaning closet, the medicine cabinet, the garden shed, and the workshop to class. Study the contents listed. This task may require much scientific detective work because many ingredients are not fully identified. Those that can be identified will fall in a number of chemical categories and will open channels for discussion. Students will discover the interrelatedness of chemistry with everyday life and will learn terms related to chemistry.

22. THIS CIRCUIT IS NOT DEAD

To acquaint students with careers in electronics and to introduce basic electronics, do the following:

1. Demonstrate basic test equipment.
   a. Transistorized meter
   b. Low voltage power supply
   c. Tube tester
2. Give students a chance to test a few basic circuits.
3. Demonstrate soldering techniques and have students practice soldering wire splices and terminals.
4. Have each student make a neon test lamp to verify that circuits are dead.

MATERIALS NEEDED FOR EACH STUDENT:
1 -- NE-2 Neon Glo Lamp
1 -- 220 K Ohm Resistor
6" --Electrician's Tape
6" -- 14-2 Romex Wire
3" -- Rosin Core Solder

What specific jobs are available in electronics (e.g., electrolysis expert, electronic assembler, electronic engineer, electronic inspector, electronic organ repairperson, electronics draftsperson, electronics technician).

An additional electronics-related activity would be for each student to construct a variable low voltage light and switch circuit which can be broken down after each class and then used

22. THIS CIRCUIT IS NOT DEAD (Cont'd)

again.

MATERIALS NEEDED: 1 -- #E2-456 12V Lamp
1 -- Potentiometer
1 -- SPST Switch
1 -- 12V AC Power Supply
Various connection wires

Credit - #3

MOTION/REST

23. FORCE, GO; OPPOSING FORCE, STOP!

To make something move through a distance, a force must be applied. To make objects stop, which are in motion, it takes another force moving in the opposite direction. What workers are actively involved with force (provide the force themselves without tools) in their work (e.g., furniture movers, professional boxers, professional wrestlers, etc.)? What workers apply the force to a tool, which in turn, does the work (e.g., carpenter uses a hammer, typist uses a typewriter, timber cutter uses a saw, truck driver uses the truck, professional bowler uses a bowling ball, driver of an earth mover uses a blade and a basket)? Where does the muscle power stop and that of the tool begin? Does the degree of muscle power make a difference?

24. LEVER TOOLS MAKE WORK MUCH EASIER

Name tools built on the lever principle (e.g., scissors, crowbar, bottle opener, wheel barrow, nutcracker, paper cutter, broom, etc.). What workers use lever-type tools? What is the value of lever machines? (A machine multiplies the effort force so that a small effort force can be used to overcome a large resistance force.)

25. INCLINED PLANE TOOLS REDUCE THE NUMBER OF WORKERS NEEDED

What are the three types of inclined planes (inclined plane - single; wedge - double; screw - circular)? Name tools built on the inclined plane principle.

1. Inclined plane (single) -- snow plow, stairs, escalator, ramp
2. Wedge (double) -- knife, lawn mower blade, scissors, can opener blade, chisel, axe, bow of a bat
3. Screw (circular) -- automobile jack, light bulb, post hole digger, screw driver

How do inclined plane tools help the worker? What inventions using the inclined plan could be developed?

26. TIME AND MOTION STUDY

Efficiency is extremely important in today's competitive industries. Time and motion studies are often made to see if jobs can be done faster and more efficiently. The technician makes recommendations on how it could be done better and faster.

Introduce a discussion about the importance of time and motion studies in today's industries. Some parent might be willing to come to class to discuss a study. Ask students to list (on board) what it would be like to be an efficiency expert of work. Include the type of work that would be done and abilities and interests needed.

Here is a simple in-class activity to acquaint students with the principles involved in time and motion studies.

1. Divide the class into pairs and give each pair a set of 7 or 8 different sized paper circles, (diameters: 1", 1½", 2" 2½", 3", 3½", 4", etc.).
2. The circles should be stacked in one pile, increasing in size, with the largest circle on the bottom and smallest on top.
3. One student is to transfer the entire pile to another spot moving one circle at a time and never placing the larger circle on top of a smaller circle. No more than three piles can exist at any one time.
   NOTE: The teacher may have to demonstrate the technique for the class before they begin to work. The math-

26. TIME AND MOTION STUDY (Cont'd)

ematical theory behind this task is found in many books including, One, Two, Three, Infinity by George Grunow.

4. The other student is to count the number of moves it takes the first student to move piles of 2, 3, 4, 5, 6, 7, and 8, circles. The amount of time involved should be noted.
5. Ask members of the class to see if they can figure out the minimum number of moves required to complete the task.

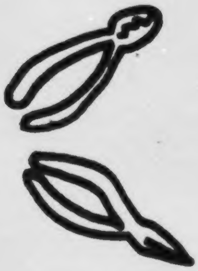
Students can apply what they have learned to many daily activities such as finding the most efficient way to wash dishes, cleaning their rooms, doing their homework, etc.

27. THIS CARBURETOR MAY BE THE PROBLEM

Have your students bring small gas engines to class. Ask students if they have a disabled lawn mower engine. As you study the working principles of engines, have the students locate the parts on the classroom samples.

1. Take the engines apart and determine the reason(s) they do not run.
2. Check the points and condensors. Replace them if faulty.
3. Remove, clean, and replace carburetors so engines will receive proper air and fuel proportions to run.
4. Remove starter assemblies, remove flywheels to test coil and condensors for unwanted grounds that cause the engine not to run.

EQUIPMENT NEEDED:
1. A new set of points
2. Condensor
3. Small gas engine
4. Wrenches
5. Gauges
6. Miscellaneous tools for disassembly of engine
7. Coil and condensor tester



HUMANS/NATURE/ENVIRONMENT

28. WHEN IT SNOWS, LIFESTYLES CHANGE

Make a long list of events that affect a big section of your community (e.g., electrical power supply failures, elevator operators on strike, etc.). Present one of the situations to the students. Each student should think of a worker who is affected by the event. Point to a student who then must jump up, pretend to be the worker, say what he/she does, and how the situation affects him/her. Keep pointing to students until you feel a new situation needs to be introduced. Keep the game lively by rushing the students. A discussion could follow on how the work of one person could affect the work of another.

29. THE ENVIRONMENT NEEDS PROTECTING

Invite a worker whose job it is to protect the environment (someone from an environmental protection agency, land use planning commission, or concerned environmental action group) in one way or another. Suggest that the person discuss with the class:

1. The influence of technology and science on the environment
2. The benefits of controlling the environment
3. Protective restraints placed upon those wanting to make environmental changes
4. Individual responsibilities to protect the environment
5. Methods students can use to influence change

Divide the class into groups to investigate various local sites to discover pollution and pollution control measures that are being used to protect the environment. Report back to the class.

30. MOST ENVIRONMENTAL PROBLEMS ARE NOT EASY TO SOLVE

Have students select one of the following problems to research and make reports back to the class. They should determine:

1. What worker(s) are concerned with the problem?
2. Why has this become a problem?
3. What measures are being taken to help the situation?
4. What more should be done to correct the situation?
5. Name at least one place where the problem exists. (A list of examples would help describe the problem.)

PROBLEMS

1. Improper disposal of sewage
2. River bed in a low land
3. Water run-off in a 20 acre parking lot
4. Offensive fumes from a paper plant
5. Coal found under farm land
6. Cloud seeding in selected areas
7. Removal of forests in water shed areas
8. Nuclear power plant situated in a farmland
9. Using salt water for human purposes
10. Natural gas shortages during severe weather
11. Control of germ warfare
12. Gathering waste products to be recycled
13. Control of heart disease or cancer

31. WHAT IS OUR E.Q.R.?

To determine the amount of pollution in your town, do the exercise on ACTIVITY PAGES 257 and 259 to find the Environmental Quality Rating (E.Q.R.). Did everyone give your town the same E.Q.R. rating? What appears to be the biggest problem with pollution in your area? What measures, if any, have been taken to curb the problem? What workers in your area are directly involved with pollution control? What workers are indirectly involved? Does your city government screen incoming industry? Do property owners in your community protect trees and landscapes? Does your city government maintain your parks? Does your community belong to a local soil and water conservation district? What other things does your city do to protect the environment?

E.Q.R.

32. MORE JOBS SOMETIMES MEANS MORE POLLUTION

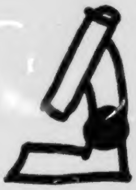
Have the students in your class choose partners and select one of the following topics. One student is to speak for the topic and one is to argue against the topic. They should determine who will be affected, how they will be affected, and what measures should be taken to insure a clean environment.

1. Build a supersonic jet airport in your town.
2. Develop offshore oil drilling in an ocean resort bay.
3. Convert a local river into a multiple use reservoir.
4. Establish an atomic energy plant near your town.
5. Remove trees and straighten the river channel.
6. Develop a limestone quarry on a wooded hillside.
7. Clear native trees and shrubs to plant grassland.
8. Establish an oil pipeline through Alaska tundra.
9. Use herbisides to clear vegetation along the boundry between the U.S. and Canada.
10. Develop a uranium-processing mill along a river.
11. Develop a cluster of high-rise apartments around a city park.
12. Develop a solid waste dump in a farming community to take care of trash and garbage for a nearby community.
13. Use atomic explosives to create an ocean-side harbor.
14. Initiate a cloud seeding project to produce rain in a semiarid region.
15. Use DDT to control Dutch elm disease.
16. Establish a nerve-gas testing site in an isolated desert area.
17. Establish a community regulation which bans the burning of trash or leaves.
18. Divert a river's course so that the river empties into the Mississippi River instead of one of the Great Lakes.
19. Establish a regulation which would limit the number of children for which income tax deductions could be claimed.
20. Introduce Old World wild sheep into semiarid desert-mountain areas.
21. Establish strict pollution control regulations for industries.
22. Set aside an extensive acreage of naturally vegetated open space for a metropolitan park.

Pollution

33. SCIENCE CAREERS INTEREST LIST

Using ACTIVITY PAGE 261, students will make some "yes" and "no" choices about science careers. At the same time they must give a reason for liking or disliking a particular job. Students should be encouraged to be specific when giving their reasons. "I love helping sick people" might be a reason for wanting to be a doctor. Or, "Sick people make me feel bad and I don't like to feel bad," might be a reason for not being a doctor. Totals might be compiled for the class and some conclusions drawn concerning overall class-wide interest. It should be stressed that areas in science that were once nearly taboo for girls are now open to them. Encourage girls to become proficient in scientific areas.



LIGHT

34. A LIGHT METER INVESTIGATION

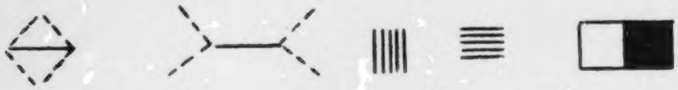
Use a light meter having a photoelectric cell to measure the amount of light in various places around the school. Record and compare results. What workers are concerned with illumination standards (e.g., photographers, lighting engineers, building contractors, airport runway engineers, beacon designers, light bulb manufacturers, etc.)? Record amounts of natural light. Turn on artifical light and then record the amount of light. Determine the differences. Determine which type of lighting would be most effective for different parts of the school? Figure costs for a year by determining amounts used in various areas. Make recommendations if changes would provide better illumination for less money.

35. WHICH IS AN ILLUSION?

A mirage is an image produced in the atmosphere by an unusual bending of light rays. These bent light rays form an image of an actual object but the object is not where you are looking. A pool of water

35. WHICH IS ILLUSION? (Cont'd)

on the highway ahead of you on a hot day is really hot air near the earth which refracts the light rays toward your eyes from the sky. An image of part of the sky is actually formed on the highway. Similar illusions may be seen on the ocean, in the desert, or in the Artic. Objects far beyond the horizon may be seen upside down, or right side up. Look at these objects;



These are optical illusions; the solid black lines all are the same length. What jobs are concerned with illusions? Could illusions ever be used dishonestly in an occupation? (advertising) How?

LIFE

36. AN ISLAND? WHERE?

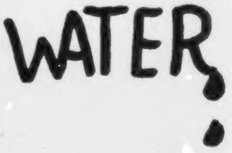
Pretend your class is being sent to a deserted island. Divide the class into groups. Each group should make a priority list of 10 items necessary to survive. Make three lists:

1. Psychological needs
2. Physical needs
3. Skills needed

Combine groups to make a composite list of the needs in priority order. How do values enter the student's decisions when ranking by priority?

37. WORLD'S WATER BECOMES IMPURE: SIX PEOPLE TO REBUILD WORLD

Something terrible has happened! Due to a fatal disease caused by the water, there are only a few people left on the earth. Only a small amount of good water is left -- just enough for six people. It is expected that this good water will last until the bad water is good again. Complete ACTIVITY PAGE 263 to see how different people place different values on life. Discuss.



38. LIFE IN THE FUTURE MAY BE VERY DIFFERENT

Help your students to project themselves beyond the present to what life may be like in the future. Divide into small groups and have each group choose one of the topics below. What would life be like:

1. If bodies could be frozen and brought back to life later?
2. If the working week was 10 hours a week?
3. If you took a pill for nutrition in the place of eating?
4. If you were assigned a job for life at birth?
5. If you could select the sex, the genetic make up, and temperament of your future children?
6. If you could have a mechanical brain transplant?
7. If you could take a vacation to another planet?
8. If having children without permission from the government was a criminal offense?
9. If cities were built underwater?
10. If you could read other people's thoughts?
11. If people worked to age 40 but lived 150 years?
12. If everyone traveled by jet backpacks?
13. If humans controlled the weather?
14. If all people had the same likes and dislikes?
15. If you could have a transplant for any part of your body?
16. If there was life on the other planets?
17. If salt water could be made useable for human consumption?

Is there any degree of truth to each of the statements? What areas of society would be affected if the statements were totally true? What specific people would be affected most? How would the working world be changed? Would such a change be harmful or helpful in our society today?

USE OF SCIENTIFIC METHODS

39. NOW JUST WHAT IS THE SCIENTIFIC METHOD?

Use the scientific method with the students to illustrate how they might decide upon a part-time job? Take them through these steps:

1. Identify the problem.	--I need a part-time job.
2. Formulate hypothesis.	--I would like working at a greenhouse.
3. Gather information.	--Ask people who work in a greenhouse about their jobs. --Read about jobs in the greenhouse. --Visit greenhouses.
4. Test the effects and results of hypothesis.	--From checking around I find the following information: 5 out of 6 say it is dirty work. 5 out of 6 say it is humid work. 6 out of 6 enjoy plants, etc.
5. Record the facts.	--I conclude that since I do not mind being dirty and hot and since I love plants, a part-time greenhouse job would be a good choice for me.
6. Review hypothesis and make alterations.	--I would like to work in a greenhouse but if there are no jobs available there, maybe I could get a job at the flower shop.

After you follow through the steps of the scientific method above, have each student do research in a similar and simple fashion of an occupation which interests them.

40. HERBERT, THE RAT, DOES AN EXPERIMENT

Get a white rat or some small animal. Place food in the cage but cover the food with a small clay flower pot. The rat will smell the food through the hole but will not be able to get it. Watch the method used to get to it. You will want to feed the rat after the experiment.

Now hide a candy bar from someone in the class. Watch the method the student uses for finding the candy bar. Compare the methods used by the rat and the student. How are they alike? How are they different?

What was the decision-making process used by both the rat and the student? Which processes are alike? Which processes are different? Which of these processes do people use in making lifetime decisions?

41. FEWER PEOPLE PRODUCE GOODS THAN SERVICES TODAY

Discuss how scientific advances have caused our society to have more workers involved with producing services than providing goods when once it was just the opposite. How has farming changed because of science? How many farmers are there now compared with fifty years ago? How does production now compare with production fifty years ago? What other occupations which produce goods have decreased in number of employees because of scientific advancements (e.g., manufacturing due to more work done by machines, lumbering due to better equipment and faster machines, clothing due to new man-made fibres and manufacturing techniques)?

42. OCCUPATION TERMS MATCHED WITH WORKERS

Using ACTIVITY PAGE 265 , have the students name three occupations where the worker would be well acquainted with the terminology given. Can you think of more workers who use these terms? Using the three occupations, name other occupational terms all three workers would use. How many in each column can you add to those already there?

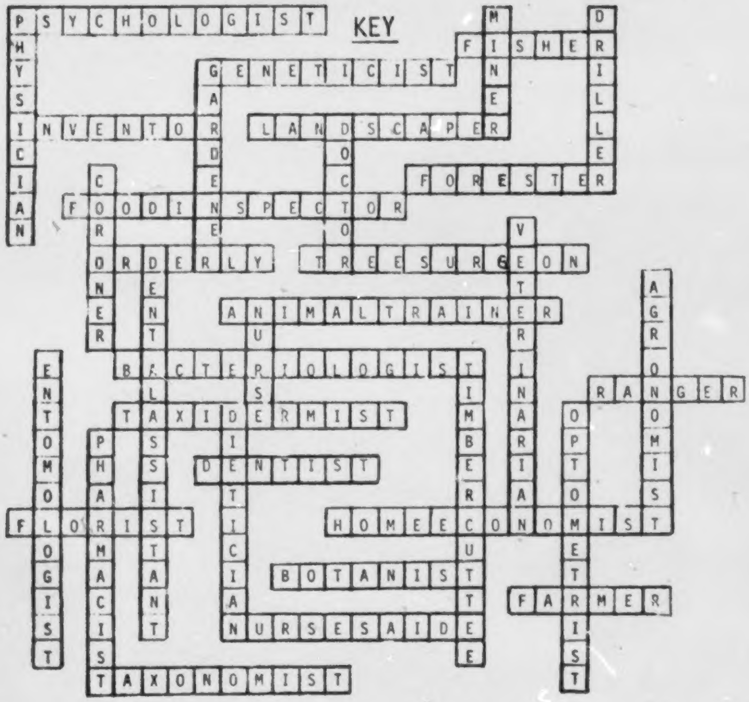
42. OCCUPATION TERMS MATCHED WITH WORKERS (Cont'd)

KEY

1. Optometrist
   Lens maker
   Ophthalmologist
2. Electrician
   Electrical engineer
   Appliance manufacturer
3. Climate analyst
   Meteorologist
   Radar engineer
4. Farmer
   Agronomist
   Soil conservation agent
5. Bacteriologist
   Chemist
   Doctor
6. Sound engineer
   Ear doctor
   Hearing aid manufacturer

43. DO A SCIENCE OCCUPATIONS PUZZLE FOR FUN

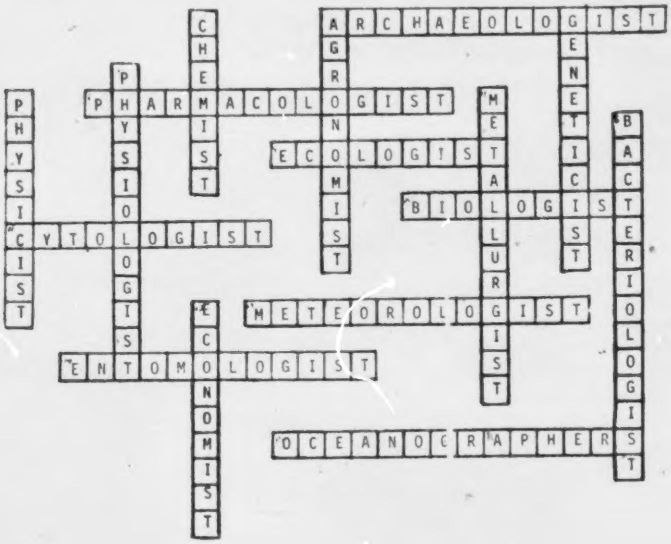
Thirty five science careers are combined into puzzle form for the student to do when there are a few extra minutes. (See ACTIVITY PAGE 267 .) For ambitious students you might suggest they take a list of science words and some graph paper and prepare a puzzle similar to the one given for their classmates to do in their extra time.


KEY
PSYCHOLOGIST
PHYSICIAN
MINER
DRILLER
FISHER
GENETICIST
GARDENER
INVENTOR
LANDSCAPER
DOCTOR
FORESTER
FOODINSPECTOR
CORONER
ORDERLY
TREESURGEON
VETERINARIAN
DENTALASSISTANT
ANIMALTRAINER
AGRONOMIST
NURSE
BACTERIOLOGIST
TIMBERCUTTEE
RANGER
TAXIDERMIST
DIETICIAN
ENTOMOLOGIST
PHARMACIST
DENTIST
OPTOMETRIST
FLORIST
HOMEECONOMIST
BOTANIST
FARMER
NURSESAIDE
TAXONOMIST

44. SCIENTISTS IN A CROSSWORD PUZZLE

There are a number of scientists who specialize in a certain field. These have been defined in ACTIVITY PAGE 269 . The students are to fill the blanks with the right scientist. What other science specialists were not given in the puzzle? How would you write definitions of these other scientific jobs?

KEY


ARCHAEOLOGIST
CHEMIST
AGRONOMIST
GENETICIST
PHYSIOLOGIST
PHARMACOLOGIST
METALLURGIST
PHYSICIST
BACTERIOLOGIST
ECOLOGIST
BIOLOGIST
CYTOLOGIST
METEOROLOGIST
ECONOMIST
ENTOMOLOGIST
OCEANOGRAPHERS

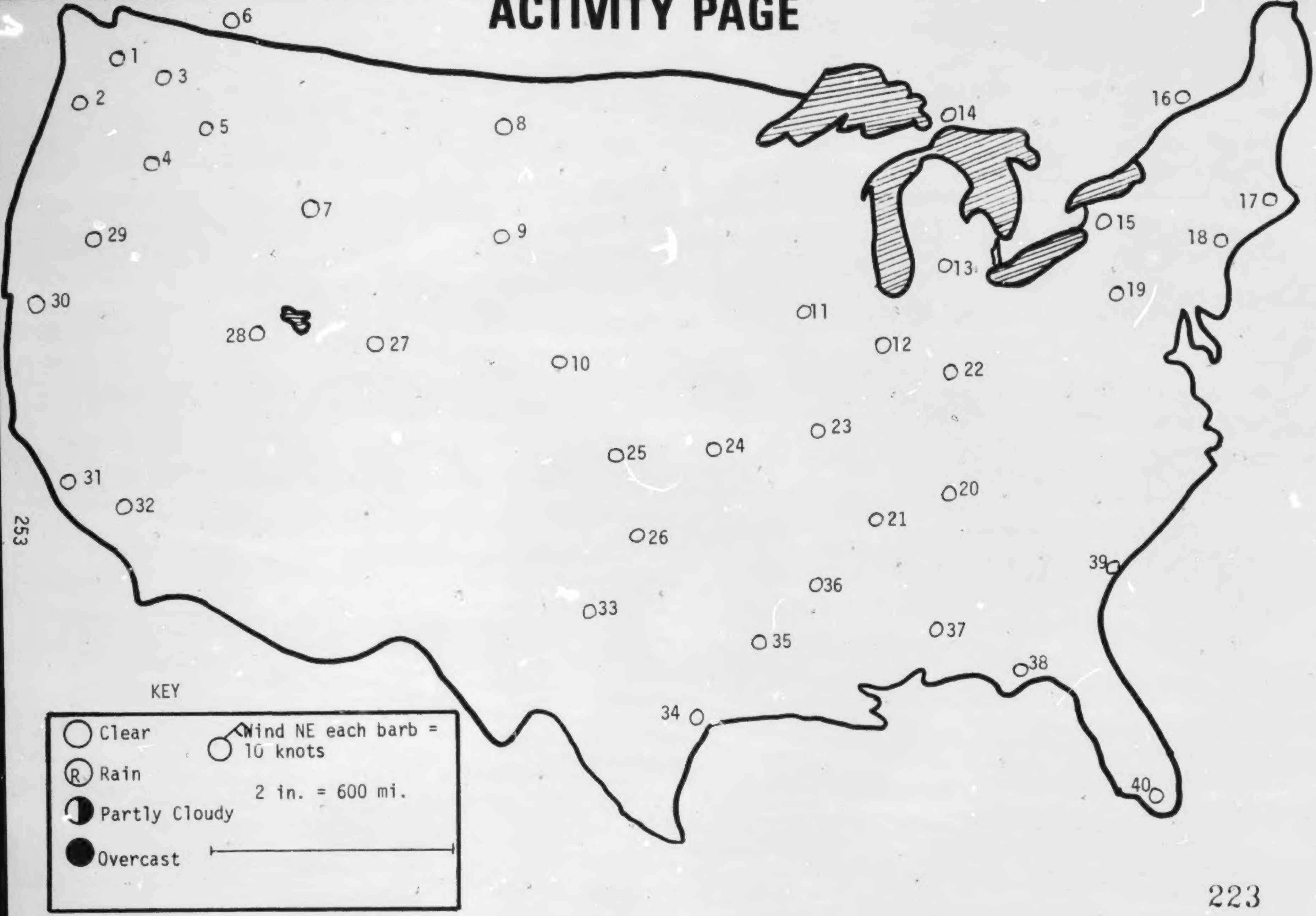
ACTIVITY PAGE

DIRECTIONS: Using the information below, as well as the map of the United States (ACTIVITY PAGE 253), fill in the map with the following information:

1. Indicate wind directions (the direction the wind is coming from) with arrows. Place barbs on tails of arrows to indicate speed of wind. (See map key.) Indicate parts of ten with part of a barb.
2. Write the temperature and pressure (write small and in pencil) by each station.
3. Mark (or leave blank) station circles to indicate sky conditions.
4. Locate the station with the lowest pressure and write "L" over it (low pressure center). A cold front starts at the center of the low pressure and lies along the line which separates where winds shift from SW to NW and where there is a decrease in temperatures. Draw this line.
5. A warm front also starts at the low and lies where winds shift from E to SE and temperatures rise. Draw this line.
6. Indicate the point with the highest pressure with a large "H". This is the influence which keeps the weather moving in a Southeasterly direction.
7. If the high and low pressure systems move eastward at a rate of 600 miles per day and keep the same general shapes, what will the weather be at station 18 for each 24 hour period for 5 consecutive days?

Sta. No.	Wind		Temp.	Sky	Pressure
	Dir.	Spd.			
1	SW	10	48	clear	1016.1
2	S	18	46	clear	1016.9
3	W	15	45	clear	1018.8
4	S	14	48	clear	1026.2
5	NW	11	47	clear	1022.0
6	S	9	40	clear	1018.0
7	W	17	45	clear	1022.9
8	N	19	40	pt. cloudy	1020.1
9	N	17	44	pt. cloudy	1017.2
10	SE	5	46	clear	1013.4
11	NE	14	45	overcast	1004.5
12	E	13	47	rain	1004.3
13	E	19	45	overcast	1009.2
14	NE	13	43	clear	1013.9
15	E	10	49	pt. cloudy	1014.1
16	E	12	45	overcast	1017.2
17	NE	14	48	overcast	1017.8
18	SE	15	70	overcast	1016.0
19	SE	10	73	overcast	1013.0
20	SW	9	74	pt. cloudy	1009.7
21	SW	19	76	pt. cloudy	1007.1
22	SE	14	74	overcast	1003.9
23	SW	12	60	rain	1001.8
24	N	13	52	clear	1006.7
25	S	8	50	clear	1010.9
26	NW	11	52	clear	1009.4
27	N	10	48	clear	1018.2
28	NW	9	47	clear	1024.3
29	E	8	47	clear	1027.1
30	NW	7	50	clear	1017.0
31	W	10	53	clear	1015.8
32	W	8	58	clear	1018.2
33	W	15	58	pt. cloudy	1009.8
34	W	19	60	pt. cloudy	1011.7
35	NW	14	54	rain	1010.2
36	NW	17	50	rain	1006.9
37	SW	15	75	rain	1010.3
38	SW	24	76	pt. cloudy	1013.2
39	W	9	75	pt. cloudy	1013.2
40	SW	20	81	clear	1018.4

ACTIVITY PAGE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KEY
○ Clear
Ⓡ Rain
◐ Partly Cloudy
● Overcast
Wind NE each barb = 10 knots
2 in. = 600 mi.

ACTIVITY PAGE

AN ENGINE PUTS HEAT TO WORK

Match the definitions (a - n) with the terms (1 - 14)

1. _____ Intake manifold
2. _____ Spark plug
3. _____ Cylinder
4. _____ Piston
5. _____ Exhaust manifold
6. _____ Carburetor
7. _____ Radiator
8. _____ Drive shaft
9. _____ Crank shaft
10. _____ Fuel pump
11. _____ Air filter
12. _____ Distributor
13. _____ Generator
14. _____ Fan

a. Removes dust from incoming air.

b. Supplies gasoline-air mixture to the cylinder.

c. Where gases leave the cylinder.

d. Pumps gasoline from tank.

e. Creates a spark to bring gas air mixture to kindling point.

f. Where gas and air mixture is exploded.

g. Sends current to proper spark plug.

h. Cylinder shaped piece of metal pushed by expanding gases to provide force of the engine.

i. Where gases enter the cylinder.

j. Rotating connector between the rods of the pistons and drive shaft.

k. Blows air over engine.

l. Power part of a vehicle, turning the axle which causes wheels to turn.

m. Furnishes current to battery.

n. Cools cylinders directly.

Which two workers listed below would not need to know the information above in order to do their job effectively? Write these numbers on the line below.

1. Auto parts salesperson
2. Automobile repairperson
3. Body and fender mechanic
4. Petrolium chemist
5. Energy engineer
6. Small engine repairperson
7. Motorized mobile home salesperson
8. Car salesperson
9. Propeller airplane manufacturer
10. Cabinet maker

_____ _____

ACTIVITY PAGE

ENVIRONMENTAL QUALITY RATING (E.Q.R.)

What is the Environmental Quality Rating (E.Q.R.) of your community? To find out, rate your community according to the following seven types of pollution:

1. Air pollution
2. Smog alert
3. Noise pollution
4. Water pollution
5. Pollution by factories, etc.
6. Soil pollution
7. Littering

Give your community a perfect score of 100 to begin with. Rate your community in each of the seven areas and subtract the number of points from 100. (Use form on following page.)

1. If your community has:
    a. No air pollution, no points subtracted
    b. Mild air pollution, subtract 2 points
    c. Moderate air pollution, subtract 4 points
    d. Severe air pollution, subtract 6 points

2. Subtract one (1) additional point for each smog alert you had during the last year.

3. If your town has:
    a. No noise pollution, no points subtracted
    b. Mild noise pollution, subtract 2 points
    c. Moderate noise pollution, subtract 4 points
    d. Severe noise pollution, subtract 6 points

4. Think about lakes, rivers, or ponds near you. If the pollution is:
    a. No water pollution, no points subtracted
    b. Mild, subtract 2 points
    c. Moderate, subtract 4 points
    d. Severe, subtract 6 points

E.Q.R. (Cont'd)

5. Factories and utilities sometimes discharge heated water into the lakes and rivers. This may harm the organisms found there. If the pollution is:
   a. No pollution caused by factories, no points subtracted
   b. Mild, subtract 1 point
   c. Moderate, subtract 2 points
   d. Severe, subtract 3 points

6. An agricultural area frequently becomes polluted by too much salt in the soil or a high concentration of pesticides and other poisons. If the farms near you have problems of this kind:
   a. No soil pollution, no points subtracted
   b. If pollution is mild, subtract 3 points
   c. If pollution is moderate, subtract 6 points
   d. If pollution is severe, subtract 9 points

7. Are there paper and trash in the streets, beer cans in the parks, and/or abandoned automobiles on the streets? If this problem is:
   a. No littering, no points subtracted
   b. Mild, subtract 2 points
   c. Moderate, subtract 4 points
   d. Severe, subtract 6 points

TYPES OF POLLUTION	RATING (MINUS POINTS)		100 POINTS
1. Air pollution	- ____________	=	________
2. Smog alert	- ____________	=	________
3. Noise pollution	- ____________	=	________
4. Water pollution	- ____________	=	________
5. Pollution by factories,etc.	- ____________	=	________
6. Soil pollution	- ____________	=	________
7. Littering	- ____________	=	________
			________ TOTAL E.Q.R.

8. What does the final E.Q.R. indicate about the overall pollution problem?

Score of 100	Perfect, no pollution
Score between 90 & 99	Mild pollution
Score between 80 & 89	Moderate pollution
Score below 80	Severe pollution problem

ACTIVITY PAGE

SCIENCE CAREERS INTEREST LIST

JOB	WOULD LIKE	WOULD NOT LIKE	WHY?
Engineer			
Miner			
Chemist			
Science Professor			
X-Ray Technician			
Druggist			
Lab Technician			
Nurse			
Farmer			
Florist			
Eye Doctor			
Dietician			
Game Warden			
Dentist			
Veterinarian			
Golf Course Attendant			
Fisher			

SCIENCE
SPRINGBOARD NO. 33

ACTIVITY PAGE

Think About It: Something terrible has happened!
Due to a fatal disease caused by water,
there are only a few people left on the earth.
A small amount of good water is left, just enough
for six people.

It is expected that this good water will last until the
bad water is good again.

DIRECTIONS: Talk with your friend. Decide which of the six people below should have the good water. Remember these six people will live to rebuild the world.

A Doctor
A Pregnant Woman
A Genius
A Chemist
A Chef
A Teacher
A Tailor
A Millionaire

A Farmer
A Minister
A Police Officer
Your Father
Your Mother
A Lawyer
A Musician
A Car Builder

A Ship Builder
A House Builder
An Actor
Your Best Friend
The President of the U.S.
A Garbage Collector
A Mechanic
A Telephone Operator

PERSON REASON

1. ___________ ______________________________

2. ___________ ______________________________

3. ___________ ______________________________

4. ___________ ______________________________

5. ___________ ______________________________

6. ___________ ______________________________

ACTIVITY PAGE

OCCUPATION TERMS MATCHED WITH WORKERS

Name three occupations from the list below where the workers would be interested in these sets of words:

1. LIGHT AND SIGHT

Optic Nerve ____________________
Farsighted
Retina ____________________
Focus
Accommodation ____________________

2. ELECTRICITY

Circuit ____________________
Alternating Current
Kilowatt-hour ____________________
Ampere
Ormatures ____________________

3. WEATHER

Atmospheric Pressures ______________
Temperature
Precipitation ________________
Wind Velocity
Humidity ____________________

4. SOIL

Clay ______________
Humus
Nitrates ______________
Erosion
Water Table ____________

5. DISEASES

Antibodies ____________
Virus
Bacteria ____________
Bacillus
Micro-organisms _________

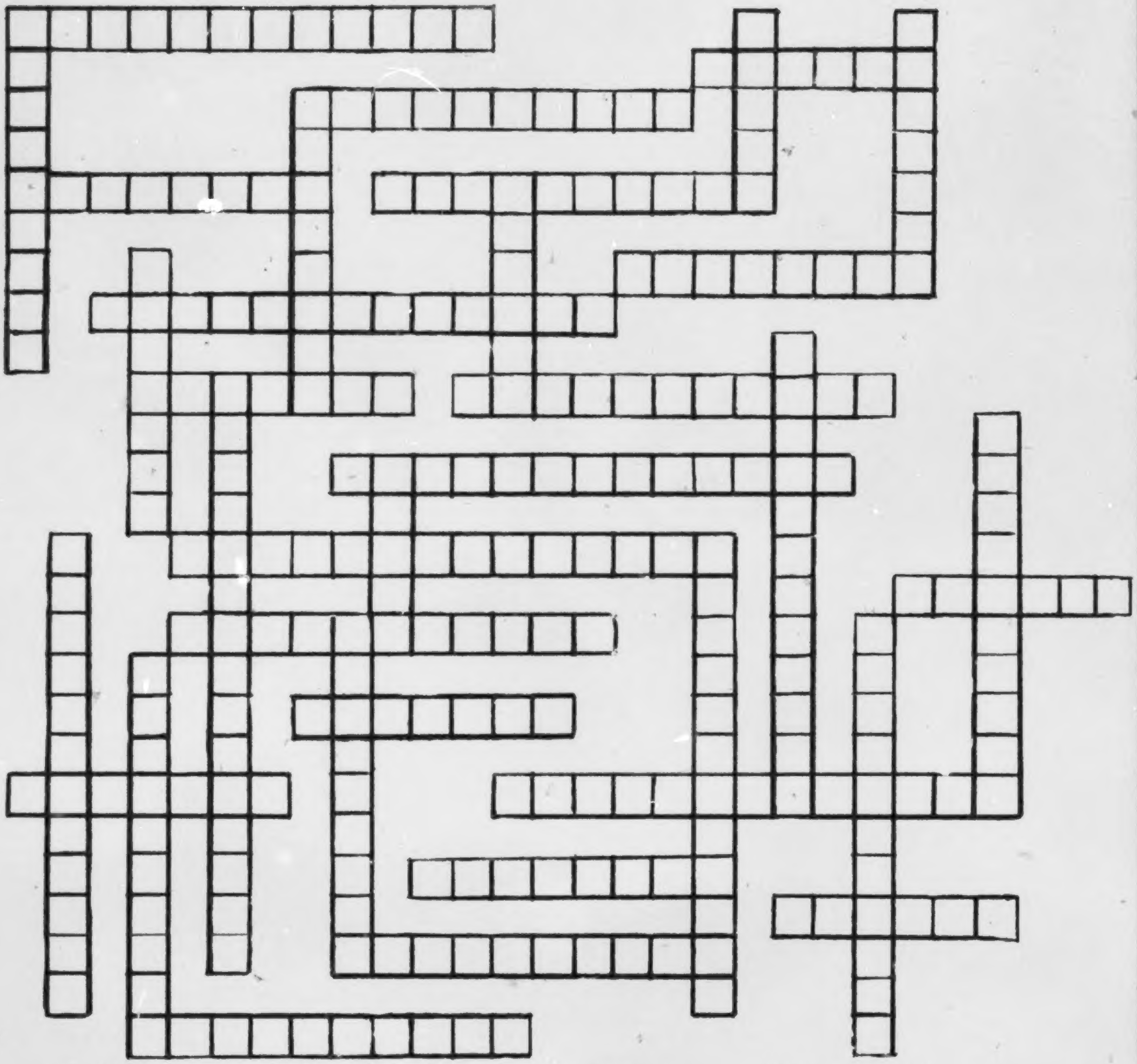
6. SOUND

Cochlea ______________
Oscilloscope
Pitch ______________
Eustachian Tubes
Vibrations ____________

Farmer
Sound Engineer
Bacteriologist
Hearing Aid Manufacturer
Electrician
Agronomist
Ear Doctor
Climate Analyst
Electrical Engineer
Optometrist
Radar Engineer
Soil Conservation Agent
Meteorologist
Lens Maker
Doctor
Chemist
Ophthalmologist
Appliance Manufacturer

ACTIVITY PAGE

SCIENCE-RELATED OCCUPATIONS PUZZLE



5 Letters
Nurse
Miner

6 Letters
Farmer
Doctor
Ranger
Fisher

7 Letters
Orderly
Coroner
Dentist
Florist
Driller

8 Letters
Botanist
Gardner
Inventor
Forester

9 Letters
Dietician
Physician

10 Letters
Pharmacist
Nurses'aide
Agronomist
Taxonomist
Landscaper
Geneticist

11 Letters
Optometrist
Taxidermist
Tree surgeon

12 Letters
Veterinarian
Timber cutter
Entomologist
Psychologist

13 Letters
Home economist
Food inspector
Animal trainer

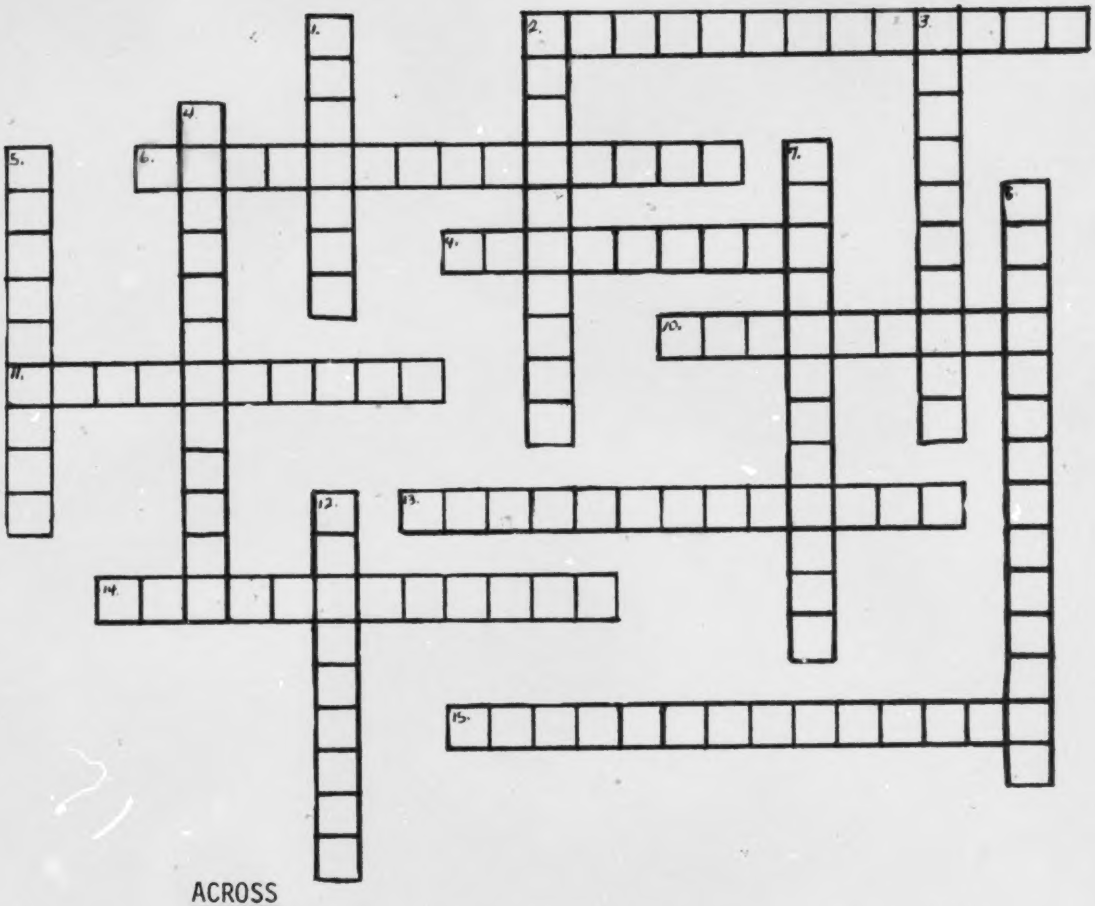
14 Letters
Bacteriologist

15 Letters
Dental assistant

SCIENCE
SPRINGBOARD NO.43

ACTIVITY PAGE

SCIENTISTS



Agronomist
Archaeologist
Bacteriologist
Biologist
Chemist
Cytologist
Ecologist
Economist
Entymologist
Geneticist
Metallurgist
Meteorologist
Oceanographers
Pharmocologist
Physicist
Physiologist

ACROSS

2. Studies prehistoric fossils and ways of life.
6. Specializes in the make-up of drugs, pills, medicines, etc.
9. Studies the connection between humans and animals and their surrounding environments.
10. Studies all plant and animal life.
11. Studies the structure of body cells.
13. Studies the air and how it affects weather conditions.
14. Studies insects.
15. Studies the geography and make-up of large bodies of water.

DOWN

1. Works with chemicals to study and make new products.
2. Studies soil and the production of that soil.
3. Studies the make-up of the body and how we inherit our body characteristics.
4. Studies the parts of the body of living organisms.
5. Studies energy, matter, motion and force.
7. Studies the make-up of different metals and ores.
8. Studies very tiny living organisms in foods, liquids, etc.
12. Studies the production, distribution, and use of goods and services.

7-8

HAND BOOK EVALUATION

What is your position in education? (Check one)

_____K-3 teacher

_____4-6 teacher

_____7-8 teacher

____Occupational Information Coordinator

____Counselor

____Administrator

____Other (specify) ______________________

Circle the appropriate response.

1. Which of the following best describes your use of the Hand Book?

Used more than 10 teacher directed activities and more than 10 student activity sheets.	Tried 10 or less of the teacher directed activities and a few of the student activity sheets.	Tried less than 10 of the teacher directed activies.	Only looked at it briefly.

2. How clear and easy to understand were the teacher-directed activities?

Extremely Clear	Quite Clear	Somewhat Clear	Hardly Clear	Not at all Clear

3. How suitable for your classroom use are the student activity pages?

Extremely Suitable	Quite Suitable	Somewhat Suitable	Hardly Suitable	Not at all Suitable

4. Generally, to what extent were the students motivated to do the student activity pages?

Extremely Motivated	Quite Motivated	Somewhat Motivated	Hardly Motivated	Not at all Motivated

5. How suitable was the material for the grade level indicated?

Extremely Suitable	Quite Suitable	Somewhat Suitable	Hardly Suitable	Not at all Suitable

6. For you, how easy to use was the Hand Book?

Extremely Easy	Quite Easy	Somewhat Easy	Hardly Easy	Not at all Easy

7. Have the activites increased your understanding as to how subject matter areas can be adapted to include occupational information?

Yes	Undecided	No

8. How useable were the Social Studies Activities?

Extremely Useable	Quite Useable	Somewhat Useable	Hardly Useable	Not at all Useable

9. How useable were the Mathematics Activities?

Extremely Useable	Quite Useable	Somewhat Useable	Hardly Useable	Not at all Useable

10. How useable were the Science Activities?

Extremely Useable	Quite Useable	Somewhat Useable	Hardly Useable	Not at all Useable

11. How useable were the Language Arts Activities?

Extremely Useable	Quite Useable	Somewhat Useable	Hardly Useable	Not at all Useable

12. What were the three best features of the Hand Book?

1.

2.

3.

13. What were the three weakest features of the Hand Book?

1.

2.

3.

14. Overall, how would you rate the Hand Book?

Excellent	Above Average	Average	Below Average	Poor

15. What additional comments would you like to make about the Hand Book?

THANK YOU FOR YOUR COMMENTS.

Please return to:

Peggy Pool
Department of Adult, Vocational and Technical Education
Illinois Office of Education
100 North First Street
Springfield, Illinois 62777

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